



NATA Safety 1st eToolkit

Welcome to the 24th 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.

Aircraft Misfueling – A Continuing Threat

By: Mike G. Mooney – Air BP Aviation Services

What is Misfueling?

When the incorrect grade of fuel is delivered into an aircraft it is termed a “misfueling”. A majority of the General Aviation [GA] aircraft fleet and some aircraft used by airlines are fuelled by the gravity or “over-the-wing” method and therefore the nozzles for either Avgas or Jet fuel may fit into the fuel tank opening. This creates the significant risk of a misfueling.

What happens when an aircraft engine is misfueled?

The serious consequences of misfueling vary based on the grade of fuel and the engine type, but here are some examples:

- ❑ Total engine failure due to knock damage if Jet Fuel is delivered into a spark ignition piston engine powered aircraft that requires Avgas.
- ❑ Ignition failure if Avgas is delivered into a compression ignition [diesel] piston engine powered aircraft that requires Jet Fuel.
- ❑ Vapor lock and engine failure due to fuel starvation if Avgas is delivered into a turbine engine powered aircraft that requires Jet Fuel. Many turbine engines are capable of operating on Avgas, but such operation is strictly controlled as described in the Pilot Operating Handbook.

If an Avgas powered aircraft is inadvertently refueled with Jet Fuel, there can be sufficient Avgas remaining in the aircraft’s fuel lines and carburetors to enable the aircraft to taxi, run up and even take off. When the Jet Fuel off reaches the engine, often at a critical time during the take off, the engine can fail and cause a forced landing or worse - a crash.

What went wrong?

In analyzing the documented cases of misfueling a variety of causes were identified, but the leading cause was Lack of Grade Confirmation, meaning that the fuelling staff did not confirm with the customer the grade of fuel required. There are many similar looking aircraft in operation around the world that clearly demonstrate that visual appearance alone cannot be relied on to identify which grade of fuel the aircraft requires.

The Look-a-likes

- Piper Mirage [Avgas] and Piper Meridian [Jet Fuel]
- Cessna 404 Titan [Avgas] and 441 Conquest [Jet Fuel]
- Twin Commander 580 [Avgas] and Twin Commander 690 [Jet Fuel]

The Diesels are Coming

To complicate matters; greater numbers of diesel powered aircraft are now being manufactured and in some cases

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existing aircraft with spark ignition piston engines are being converted to diesel engines. Aircraft fitted with diesel engines are very similar in appearance to aircraft fitted with spark ignition piston engines making visual identification very difficult. In addition, the filling ports on modified aircraft may not have been replaced with the larger diameter airframe fuelling port associated with aircraft requiring jet fuel. The consequences of fuelling these aircraft with Avgas can be catastrophic.

Misfueling Prevention – An Industry Standard

Clearly there is a need for a comprehensive set of procedures to address the many possible causes of misfueling. To address this need an API/IP Aviation Fuel Sub-Committee whose members include John Thurston of Air BP, and Martin Tippl of Exxon-Mobil, are currently drafting a Recommended Practice document entitled “Procedures for Over Wing Fuelling to Ensure Delivery of the Correct Fuel Grade to an Aircraft”. Once the draft is completed it will be sent to the full API Committee for review and adoption. Once published, we hope that this document becomes the industry standard for aircraft misfueling prevention.

Elements of a Misfueling Prevention Program

The key elements of effective misfueling prevention should be adopted into the standard practices at all fuelling operations. They include:

- Training
- Grade Confirmation
- Written Fuel Order Forms
- Grade Decals for Aircraft and Fuelling Equipment
- Selective Nozzle Spouts
- Fuel Receipt Quality Control Procedures

Training

Root cause investigations in the aftermath of aircraft misfueling (as well as a majority of other incidents) have identified insufficient training as an all too common cause. A very basic rule for all aviation businesses should be;

All employees providing any kind of service for anyone, shall have documented training using an approved training program administered by a qualified instructor.

The “documents” to support proper training should include:

- Copies of written exams (with passing scores)
- A sign off for each of the necessary skills by a qualified instructor signifying that the student demonstrated they were competent to perform that particular service safely.

The NATA Safety 1st program is superb on this point as it contains the forms to document each service. However, in some cases we have found that it was not filled out and the application for Safety 1st certification never sent to NATA.

Recurrent training should be done based on intervals (annual, semi-annual, etc.). For refresher training, the simple act of casually observing an employee perform their job can result in an accurate assessment of their skills. If you see it is not performed correctly, submit them for some refresher training. The dates and results of these follow-up observations and any training provided should be recorded in the employees training record.

It is essential that all personnel clearly understand the consequences of any lapse in maintaining correct procedures. I call this delivering the “what’s in it for me”. The consequences of a misfueling are deadly serious.

It is therefore essential that personnel are fully trained to undertake over wing fuelling of aircraft to prevent misfueling.

Training staff should develop a written, risk assessed, Job Task which contains a step by step procedure on how to over wing fuel an aircraft. This Job task shall also address health and safety issues and any legally required Personal Protective Equipment required when performing such work.

Training aides such as posters or bulletins describing the requirements of misfueling prevention, or other safety subjects should be located on wall/doors/bulletin boards as useful reminders to Refuelling Staff of the need for vigilance in preventing misfueling.

Grade Confirmation – The Key to Taking a Fuel Order

When taking a verbal fuel order, the requested fuel grade should be repeated back to the customer to ensure confirmation. Whether taking a verbal or written fuel orders, all must include confirmation of the grade of fuel required. Essential information in a fuel order is:

- Fuel grade
- Quantity of fuel to be delivered into each fuel tank
- Aircraft registration

It is common for a pilot to request “200 a side” or “top it off”, without specifying the fuel grade required. Again it is critical to repeat the order back to the customer and have them confirm the grade required as in “is that 200 gallons of Jet-A a side?” or “is that a top-off with Avgas 100LL?” (Ideally, as you hand them the now written fuel order asking them to sign to confirm.)

If you are working personally with a customer and receive an over wing fuelling verbally and plan to complete the fuelling immediately, you won't need to write up the order, just verbally confirm the fuel grade. In all other instances the order must be written after verbally being received from the pilot.

The recording of verbal orders and their accurate transmission from one person to another is critical in ensuring that the correct fuel grade and quantity is delivered. Meter tickets and other documentation that are used routinely to initiate normal fuelling or billing processes are not written Fuel Order forms as they do not document the confirmation of the fuel grade.

“50 a side with go juice please...”

It is important to use standard product names when referring to aviation fuel products to avoid confusion. It is not uncommon for customers to use unusual or abbreviated product names which can lead to confusion. This is particularly apparent where customers have operated internationally. For example; in Spain the local name for Jet Fuel can be “Petroleo” which is very similar to “Petrol” as used for gasoline (more like Avgas), in many countries. Some pilots may only use one grade of fuel in their fleet and may not be aware of the importance of grade confirmation.

When orders are received from customers (or from instructions relayed via other members of staff) which do not use these “standard” product names, you must clarify the grade. Orders such as “aviation fuel” or “gasoline”, etc, have the potential to cause the delivery of the incorrect grade of product.

Fuel Grade Decals

All aircraft owners should fit Fuel Grade Warning Labels to the over-wing refueling ports of their aircraft. These labels are provided free of charge by Air BP dealers and provide the best warning to the line staff of the fuel grade the aircraft requires. The fuelling equipment should have fuel grade decals on all four sides. Many operations have placed fuel grade decals on the inside of the vehicle's windshield at the top (so it won't block the driver's view). That way the driver can see the grade of fuel the vehicle carries as they approach the aircraft.

No Decal – No Fuel

A policy should be established that line service personnel only refuel aircraft which are properly fitted with appropriate fuel grade identification that matches the fuel grade on the refueling equipment they intend to use. In cases where no such identification is visible on the aircraft, they should have a completed Fuel Order Form before proceeding with the fuelling.

The “Rogue” Nozzle

Close control and access of this “Rogue” nozzle spout is critical in an effective misfueling prevention program. In case after case we have found FBO's that have removed the J-Spout, and installed the rogue nozzle spout permanently. We ask them why they would remove such a critical item and they usually say “because we fuel some aircraft (usually helicopters) that the J-Spout won't fit into.” So they risk misfueling Avgas aircraft so that they will not have to bother with switching nozzles for a relatively small number of aircraft. Convenience will not be a very convincing argument in court if you remove the industry standard misfueling

are you nozzle savvy?

Do you know which nozzle should be used on your aircraft, and why? All Avgas powered aircraft with overwing fueling ports should have an opening smaller than 2 inches. FAA mandated restrictor plates are available for larger openings.



Avgas Nozzle (1 inch spout)



Jet Fuel Nozzle (J-Spout)

2½ inch oval spout. The intent is that the 2½ inch J-Spout for Jet Fuel will not fit into the tank opening on an Avgas powered aircraft fitted with the restrictor plate.



The Rogue Nozzle (Straight Spout)

Jet Fuel Nozzle – 1½ inch spout. Be on the lookout for Jet Fuel nozzles fitted with this spout. It will fit into an Avgas aircraft even with the restrictor plate. These should not be installed on Jet Fuel nozzles!



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prevention device!

We recommend that the “Rogue” nozzle spout be kept in the care and custody of a supervisor. If it is needed, the supervisor can confirm the need (by confirming the fuel grade and tank opening size) then issue the rogue nozzle and ensure its prompt return.

Fuel Receipt Quality Control Procedures

The worst scenario in a misfueling is when you have gross fuel contamination upstream in the fuel supply system. Careful measures are taken by most fuel suppliers to ensure that only clean, dry, on spec product is delivered to airports. However, if this product is delivered into the wrong tanks, it will contaminate the fuel in the tanks. If this is not discovered and this contaminated fuel reached an aircraft, the consequences could be deadly.

Adherence to established fuel receipt quality checks is the best defense against this kind of “misfueling”. Key elements include:

- ❑ Testing the gravity of the fuel and ensuring that it is within acceptable tolerance limits when compared to the accompanying Certificate of Analysis.
- ❑ Conducting a visual inspection of the fuel to ensure it is the appropriate color.

Once the fuel grade is confirmed and other quality control checks are acceptable, the use of grade selective couplings at the point of connection on the fuel farm where the road transports off-load, will help prevent the wrong grade of fuel from being delivered into the storage tank. Also the grade selective connectors must be used to transfer product into the refuelers to prevent the loading of the incorrect grade of product into fuelling vehicles.

Working Together

Aircraft misfueling is a continuing threat in our industry, but by working together to ensure these preventative measures are followed, we can help stop aircraft misfueling altogether.

The wrong fuel grade can be deadly, so when it comes to fuel grades, **never speculate.**

Always Make Sure

A special thanks to John Thurston – Air BP and Martin Tippl – Exxon-Mobil for their contributions to this article.

NATA Press Releases

Lawton Joins NATA’s Safety 1st Team

Alexandria, VA, June 19, 2006 ~ Aviation safety expert Russ Lawton has joined the National Air Transportation Association’s (NATA) Safety 1st Program as Director of Safety and Security.

Lawton, among the leading operational aviation safety experts in the U.S., joins Amy Koranda, NATA’s Safety 1st Director of Safety Management, as they work together to direct the industry-leading Safety 1st Program.

“We are delighted that Russ has joined the Safety 1st team,” said NATA President James K. Coyne. “The depth of expertise he brings to the air side of flight operations is simply world-class.”

“Russ’s intimate familiarity with every aspect of air charter operations will be tremendously beneficial as we roll out NATA’s Safety 1st Management System for Air Charter,” added Koranda. “No one knows the air safety side of the charter community better than he does.”

In his new role, Lawton will be responsible for managing the Safety Management System (SMS) program for air charter and for contributing to the implementation of training and safety oversight programs for the charter community. Koranda, an NATA veteran of eight years, will increase her contributions to NATA’s popular SMS Ground initiative, in addition to other responsibilities.

Lawton has held key safety roles over nearly three decades in aviation. He most recently served as a Director of Operations at Wyvern Consulting and was Wyvern’s lead field auditor. He also is an experienced charter operations advocate and has assisted the National Transportation Safety Board and the Federal Aviation Administration on various safety initiatives.

Lawton holds a master’s degree in safety from the University of Southern California and a bachelor’s degree in air commerce from the Florida Institute of Technology. Lawton spends his off-hours as an active pilot, flight instructor, and Cessna 210 owner.



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Survey Confirms Problems Associated With New Fuel Fraud Tax Policy

Alexandria, VA, July 21, 2006

The Aviation Management Consulting Group, on behalf of the National Air Transportation Association (NATA), conducted a survey of aviation fuel providers affected by the new policies regarding the collection of aviation fuel taxes. The changes were mandated by last summer's Highway Bill (SAFETEA-LU, P.L. 109-59). The survey results demonstrate many of the difficulties faced by fuel sellers under the new policies that were put in place on October 1, 2005.

"The survey results clearly spell out the myriad of problems associated with this change to the tax law," said Eric R. Byer, NATA's Vice President for Government and Industry Affairs. "This survey validates what we have thought would happen since the provision was implemented last fall – many aviation fuel providers are simply opting not to deal with the significant paperwork and accounting burdens and are instead passing the extra tax on to their customers. To make matters worse, those who have tried to participate in the rebate process have met with extraordinary difficulty as they try to navigate through a confusing IRS bureaucracy."

The fuel providers surveyed represented a diverse sample of the industry with a range of businesses that sell from 60 gallons of jet fuel per month to 9 million gallons. On average, the survey respondents sell approximately 270,000 gallons of jet fuel per month.

Of the survey respondents, 76 percent have applied to the Internal Revenue Service (IRS) for designation as an Ultimate Registered Vendor (URV), which would allow them to collect the rebates on the extra 2.5-cents-per-gallon tax applied to aviation jet fuel (Jet A). Of those who have applied, one third has yet to receive approval for URV status. Of those who have been approved, over half had to wait two to six months for approval from the IRS.

Those businesses approved to apply for and receive refunds also have to wait a significant amount of time to receive the refunds from the IRS. Seventy percent of those companies receiving refunds have to wait more than six weeks to receive a refund from the IRS, including 30 percent that are still waiting for their first refund from the agency.

"The survey results also confirm what was feared within the industry – that many businesses would opt to avoid the refund process and pass the increased tax on to the final customer," Byer continued. Those respondents who are not applying for URV status stated that the bureaucratic hassle and paperwork burden are too much to handle for such a seemingly small amount of money per gallon. Respondents also cited confusion from IRS officials themselves regarding the refund process that has led to their decision not to participate in the process.

Failure to register as an URV results in all taxes collected on fuel sold by a particular company to reside in the Highway Trust Fund rather than the Airport and Airway Trust Fund.

It is evident that the IRS is ill equipped to handle this policy change. Congress must act immediately to bring greater clarity and efficiency to this process. NATA has supported legislation, S. 2666, that would temporarily delay this costly provision and provide time for all affected parties to discuss alternative ways to solve any fuel fraud issues without adversely harming law-abiding aviation businesses. The Senate needs to consider this important piece of legislation as soon as possible."

For More Information Contact

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Russ Lawton (NATA, Director Safety & Security), Amy Koranda (NATA, Director Safety Management), Dawn Lettlier (Business Aviation Services, Safety & Security Coordinator) and Dale Froehlich (Business Aviation Services, President & CEO)

Dawn Lettlier completed Business Aviation Services NATA Safety 1st Management System for ground (SMS) and was presented a gratis copy of the Air Charter SMS for being the first to submit a completed SMS manual. Congratulations go out to Dawn and Dale for a job well done!



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SPCC Update

NATA Requests Status Report Of Proposed SPCC Amendments

Alexandria, VA, June 21, 2006

Four years have passed since the Environmental Protection Agency (EPA) issued the current Spill Prevention, Control and Countermeasures (SPCC) regulation, and compliance concerns still remain unresolved. The 2002 regulation caused great angst within the aviation community when the 2002 version clearly defined an on-airport mobile refueler truck as “portable or mobile containment” requiring sized-secondary containment. The change came as a great shock to aviation fuel providers, but the EPA maintained that mobile refueler vehicles had been subject to this specific portion of the SPCC since its creation in 1973.

Since 2002, the National Air Transportation Association (NATA) has led the charge to ensure that the original regulation’s impact on the aviation community remains minimal while environmental concerns are addressed. The association secured political support from key Congressional leaders, and in December 2005, proposed amendments to the 2002 regulation, including the elimination of sized-secondary containment requirements, allayed many of the aviation community’s concerns. However, many questions remained unresolved that still require EPA clarification before the rule’s implementation deadline of October 31, 2007. In February 2006, the association submitted comments raising these concerns in hopes that the agency would address these matters within the final amendments that were to have been issued this spring.

Today, NATA president James K. Coyne sent a letter to EPA Administrator Stephen Johnson expressing continued disappointment at the agency’s lack of progress in clarifying and interpreting the new SPCC amendments.

“As stakeholders in that process, we are appreciative of the time that the Oil Program Office has taken over the past several years to understand better the unique and, in some cases, unexpected ways in which the revised SPCC program would function in the context of the aviation industry,” wrote Coyne. “However, the EPA’s failure to produce the final SPCC regulation with the proposed amendments, estimated to be released in spring 2006, is disappointing, at best.”

The delay in finalization of those proposals by the EPA leaves the industry in limbo, awaiting final decisions before being able to complete their SPCC plans. The association requested an indication from the EPA on when to expect the proposed amendments to be finalized, and urged that the agency do so in a responsible yet swift manner.

“As we embark upon the first day of summer, the EPA has yet to provide these final amendments and clarify many of the unresolved matters that still exist within the SPCC regulation,” Coyne concluded. “It is imperative that EPA finalize their proposals so that the aviation industry has adequate time to meet new secondary containment requirements.”

[To review a copy of the letter please click here.](#) (Requires NATA member User ID and password)

NATA Safety 1st Certification – A Quick Review

- View the PLST videos and read each corresponding section of the Employee Career Reference Guide (ECRG modules 1-10)
- Pass each Module Practical Exam (1-10) with a score of 100%
- Pass each Module Written Exam (1-10) with a 90% or better
- Complete and sign the “Line Service Specialist Certification Form” contained in Appendix “G” of the Trainer’s Guide
- New Applicants: Please complete the NATA Safety 1st Test Applicant Information Form contained in Appendix “G” of the Trainer’s Guide
- If required, complete and sign the 14 CFR (part 139.321) of the FAA Regulations “Fire Safety Training Verification Form”. This is contained in Appendix “H” of the Trainer’s Guidebook
- Mail all completed forms to:

NATA Safety 1st – Aviation Training Institute (ATI)
4226 King Street, Alexandria, VA 22302
FAX: (703) 845-0396 / Phone: (703) 575-2045

Please print the full version of this checklist from your 2006 CD ROM (In the folder: 1 PLST TRAINING MANUALS (Trainer & Employee Guide) called Certification Checklist Jan-2006)

NATA Safety 1st Certification Review

Whether you are new to the NATA Safety 1st Professional Line Service Training Program (PLST) or just need to jog your memory on certification, the checklist in your training materials will provide valuable assistance. The checklist included in this article is an abbreviated version of what is on your 2006 CD ROM. We recommend you print out the full version from your CD ROM and follow it because it contains



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pricing information that goes beyond the scope of this discussion.

This checklist covers NATA Safety 1st certification using the PLST. There are other alternatives to certifying your line technicians once you complete this training. We recommend you conduct training every year but certification with us is required every two years. Additional training options are contained on your CD ROM, but for our review, we will cover certification using the PLST.

As the trainer at your location, please print out a copy of the *Employee Career Reference Guide (ECRG)* and make it available to each of the line technicians you will train. It is very important that all of your line technicians read the chapters that go along with each video. At the end of each chapter, there are written and practical exams. Again, each of your line techs should have a copy of both exams. Once your line technician completes and passes the exams, 100% for the practical hands-on and 90% or better for the written exams, copies of both exams should be placed in their training record. (There are additional training records required but we are just reviewing certification paperwork in this article. Please review the PLST Training Records Checklist contained in the same folder on your CD ROM or our past article on training and recordkeeping in the NATA Safety 1st *eToolkit* June 2005 Issue 11.)

Once the videos have been viewed and the exams taken and passed, you are now ready to certify your line technician (s). The paperwork submitted to NATA will include what we consider a “synopsis of training” both for our records and fulfillment of the certificate and patch your line technician will receive. As the checklist indicates, we need a summary of the date the training took place and the written / practical exam grades. The required paperwork for this is the **Line Service Specialist Certification**. As the trainer, this is in your *Trainer’s Guidebook* under Appendix G, page 137 on your CD. We recommend keeping a master copy on hand for all your line techs. Additionally, we like to capture information on each line technician and require a copy of the **Test Applicant Information** form (Appendix G, page 138 on your CD) if we have not certified this individual before. (If in doubt, please email us and we can provide a complete list of all the line techs previously certified. We do this on a yearly basis during renewal time, but if you need confirmation, please don’t hesitate to ask!)

If you are required to certify your line techs for 14 CFR Part 139 Section 321, you will need to submit one additional form. Refer to your *Trainer’s Guidebook*, Appendix H page 140 on the CD, for the *Fire Safety Training Certification Form*. Again we recommend you keep a master copy of this available for future certification purposes.

The last step in the process is to refer to the checklist on your 2006 CD ROM to assure you include the certification fees with your paperwork. Finally, the last item on the checklist includes our address for mailing purposes. Please make sure to follow our checklist each time you submit paperwork and your requests will be processed as promptly as possible. If we don’t receive the correct paperwork the first time, we will fax a request back to you asking for the additional information needed. We appreciate your assistance so that we can do our part to get your line techs certified! Keep those requests coming to assure certification every two years while remembering to train every year.



Walter Chartrand talks with the Fuel and Hazardous Materials Safety Workshop attendees in Dallas on June 19-20th about quarterly fuel farm and fuel vehicle inspections. Workshop participants included line supervisors, airport operators, ARFF and other fire personnel learning about fuel farms, fuel trucks, fire safety and hazardous material handling from Dennis Leon, Department of Safety at the Dallas/Fort Worth International Airport and Walter Chartrand, Air BP Aviation Services. The Fuel and Hazardous Materials Safety Workshop, held annually, is a joint workshop in cooperation with AAAE, Air BP Aviation Services and NATA.

Tax Seminar For Air Charter Operators

The National Air Transportation Association (NATA) is once again offering a special tax seminar specifically geared towards Part 135 air charter operators. The Tax Seminar for Air Charter Operators is designed to provide answers to some of the most common tax-related issues faced by the air charter industry.



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The one-day seminar will take place on Wednesday, August 2, 2006, in Indianapolis, Indiana. It will be held at the Holiday Inn Select Indianapolis Airport.

NATA has partnered with one of the nation's most respected aviation attorneys, Kent Jackson of Jackson, Wade & Blanck, to provide up-to-date information designed to help operators comply with all IRS regulations.

Mr. Jackson is an aviation attorney, author, and a type-rated ATP with flight experience in Part 91 and 135 operations and practices solely in aviation law. He will serve as both the moderator and a speaker for the seminar, along with other industry-recognized speakers.

This year's sponsor for the seminar is Jet Solutions, LLC of Richardson, Texas.

This seminar is recommended for persons collecting and remitting federal excise taxes for on-demand Part 135 air charter operators. Attendees will learn how to properly apply taxes to their flight operations with presentations including:

- Application of Federal Excise Taxes
- Exemptions from Federal Excise Taxes
- State Tax Problems
- International User Fees
- Common Tax Errors
- Completion and Filing of IRS Forms
- Receiving the Fuel Tax Credit
- Structuring of Aircraft Management Agreements
- Tax Implications of Charter Brokering

Registration is \$350 for NATA members and \$450 for non-members. For more information or to register, visit [NATA's events page](#) or call NATA at 800-808-6282.

The Heat Equation

HIGH TEMPERATURE + HIGH HUMIDITY + PHYSICAL WORK = HEAT ILLNESS

When the body is unable to cool itself through sweating, serious heat illnesses may occur. The most severe heat-induced illnesses are heat exhaustion and heat stroke. If left untreated, heat exhaustion could progress to heat stroke and possible death.

U.S. Department of Labor
Occupational Safety and Health Administration
OSHA 3154
2002

Heat Exhaustion

What are the symptoms?
HEADACHES; DIZZINESS OR LIGHTEADEDNESS; WEAKNESS; MOOD CHANGES SUCH AS IRRITABILITY, CONFUSION, OR THE INABILITY TO THINK STRAIGHT; UPSET STOMACH; VOMITING; DECREASED OR DARK-COLORED URINE; FAINTING OR PASSING OUT; AND PALE, CLAMMY SKIN

What should you do?

- Act immediately. If not treated, heat exhaustion may advance to heat stroke or death.
- Move the victim to a cool, shaded area to rest. Don't leave the person alone. If symptoms include dizziness or lightheadedness, lay the victim on his or her back and raise the legs 6 to 8 inches. If symptoms include nausea or upset stomach, lay the victim on his or her side.
- Loosen and remove any heavy clothing.
- Have the person drink cool water (about a cup every 15 minutes) unless sick to the stomach.
- Cool the person's body by fanning and spraying with a cool mist of water or applying a wet cloth to the person's skin.
- Call 911 for emergency help if the person does not feel better in a few minutes.

Heat Stroke—A Medical Emergency

What are the symptoms?
DRY, PALE SKIN WITH NO SWEATING; HOT, RED SKIN THAT LOOKS SUNBURNED; MOOD CHANGES SUCH AS IRRITABILITY, CONFUSION, OR THE INABILITY TO THINK STRAIGHT; SEIZURES OR FITS; AND UNCONCIOUSNESS WITH NO RESPONSE

What should you do?

- Call 911 for emergency help immediately.
- Move the victim to a cool, shaded area. Don't leave the person alone. Lay the victim on his or her back. Move any nearby objects away from the person if symptoms include seizures or fits. If symptoms include nausea or upset stomach, lay the victim on his or her side.
- Loosen and remove any heavy clothing.
- Have the person drink cool water (about a cup every 15 minutes) if alert enough to drink something, unless sick to the stomach.
- Cool the person's body by fanning and spraying with a cool mist of water or wiping the victim with a wet cloth or covering him or her with a wet sheet.
- Place ice packs under the armpits and groin area.

How can you protect yourself and your coworkers?

- Learn the signs and symptoms of heat-induced illnesses and how to respond.
- Train your workforce about heat-induced illnesses.
- Perform the heaviest work during the coolest part of the day.
- Build up tolerance to the heat and the work activity slowly. This usually takes about 2 weeks.
- Use the buddy system, with people working in pairs.
- Drink plenty of cool water, about a cup every 15 to 20 minutes.
- Wear light, loose-fitting, breathable clothing, such as cotton.
- Take frequent, short breaks in cool, shaded areas to allow the body to cool down.
- Avoid eating large meals before working in hot environments.
- Avoid alcohol or beverages with caffeine. These make the body lose water and increase the risk for heat illnesses.

What factors put you at increased risk?

- Taking certain medications. Check with your health-care provider or pharmacist to see if any medicines you are taking affect you when working in hot environments.
- Having a previous heat-induced illness.
- Wearing personal protective equipment such as a respirator or protective suit.

New NATA Safety 1st Member Alerts



NATA Safety 1st will be using this new format to alert members through email about issues that you should be notified of immediately.



Safety 1st Worst Tug Competition!

For our next issue, we are encouraging all to send in photos of their worst looking tug that you hopefully do not use anymore!

Winners will be notified in the September eToolkit.



These photos were taken by Lou Sorrentino on a recent international assessment. When the operators were questioned about this tug, they told us that it was taken out of service years ago and was no longer operational (funny how things seem to make their way back to the active ramp!).

July Incident Round Up

- ❑ **Severe Injury:** A ground worker at Johannesburg International Airport had his legs severed by the landing gear of a Boeing 747 jumbo jet on Sunday, media reports said.

The ground engineer was helping a British Airways jumbo jet to its parking position and was believed to have been placing the wheel chocks on the aircraft's wheels when the accident happened, according to the South African Press Agency Sapa, citing local reports.

The agency cited unconfirmed eyewitness accounts as saying the man had passed out and fell under the main landing gear.

- ❑ **GIII – Left horizontal stabilizer – AC damaged** when stabilizer contacted hangar door during removal from hangar. Operator required wing walker but not used.
- ❑ **Storm Damage – Heavy Weather in Many Regions of the United States.** Several aircraft have been damaged as a result of strong winds, severe fast moving thunderstorms and flash flooding. In two separate incidents, a single engine Piper Warrior and a Piper Seneca were damaged when their T-Hangar door collapsed onto the aircraft.

ALERT: Be sure to check your hangar doors, internal structure and tie down cables and anchors as we enter the storm season.



- ❑ **General Awareness:** It has been reported from one of our Insurance Company Sponsors that they are seeing a rise in the number of taxiing incidents involving aircraft taxiing into other parked aircraft on the ramp. **General Conclusion: Operator's not providing adequate clearance between parked aircraft and ramp marking lines confusing and inadequate. Make sure the lines on the ramp correspond to the largest aircraft handled. If not, make sure your Line Service Department knows what can and cannot be placed on the ramp. Pre Planning your ramp parking is GOOD BUSINESS.**



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CONTINUING EDUCATION

General Education Offerings

NATA Tax Seminar for Air Charter Operators

August 2, 2006

Seminar: Holiday Inn Select, Indianapolis, IN

Additional Details & Registration Online:

http://www.nata.aero/events/event_detail.jsp?EVENT_ID=741

Line Service Supervisor Training Seminar

September 13 & 14

Seminar: Air Services Museum / Hotel: Academy Hotel

Additional Details & Registration Online:

<http://www.nata.aero/events/index.jsp>

November 29 & 30

Hotel & Seminar: Marriott Riverwalk

Additional Details & Registration Online:

<http://www.nata.aero/events/index.jsp>

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/>

Education is a wonderful thing. If you couldn't sign your name you'd have to pay cash.

- Rita Mae Brown

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.

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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 _____