

and every operation. Keep a chart of these readings for every filter vessel. Differential pressure readings MUST be taken at full, maximum system flow. If you get the highest reading in recirculation, then that is the time to take the reading. The higher the flow rate, the higher the differential pressure.

3. Test your Differential Pressure (DP) gauges regularly. If you have a Gammon Gauge (piston type DP gauge), this is simple, if you have a test valve on it. If not, add one. Any three way valve will work. See function test in the manual at: <http://www.gammontech.com/ggagem.htm>

4. Make SURE you change the cartridges at least once a year. Do NOT assume that low volume of fuel or low pressure drop means the cartridges last longer. This is NOT true. In fact, low throughput may cause more risk. Another concern, learned recently, is that you should not operate the cartridges at lower flow rates than the manufacturer recommends. For example, do not operate a 50 gpm element at 15 gpm. It is best to consult your manufacturer.

If you follow the direction of your filter manufacturer and your oil Company or airline, you should be safe both operationally and legally. But ALWAYS be on the lookout for anything out of the ordinary. For example, anything found in the nozzle strainer is good reason for further investigation. The filter should not allow anything to pass that can be seen with the human eye. The debris may have been generated in the system downstream of the filter, the cartridges may have failed or they were not properly installed.

Automatic controls can be added to augment, but not to replace, the suggestions above and those of the filter manufacturer. Drain line water detectors can be added to filter drains. Switches can be installed to monitor the DP (or added to Gammon Gauges). But the important thing is that proper inspections are made and compared with past records and experience. **Remember:** *The key to quality control is looking for changes.*

INCIDENT ROUND UP:

- ▶ King Air 350-Pilot requested mains topped off. Technician placed fuel in wrong tanks. Line Tech was unfamiliar with King Air 350 fuel tank layout.
- ▶ Gulfstream – Aircraft parked and chocked with 4” chock on a sloping ramp, rolled into vehicle.



- ▶ CRJ - Damaged DME Antennae caused by employee moving underneath fuselage.
- ▶ Partenavia – Nose gear torque link damage detected after several ground movements.
- ▶ Employee Injury – While positioning GPU with tug, employee struck trailing edge of aircraft. Possible loss of situational awareness.
- ▶ Employee Injury – Lacerations to scalp from Westwind engine nacelle vent tube. Employee struck nacelle during refueling operation.

CHOCK ALERT: With the recent rash of aircraft damage events resulting from improper chocks, NATA continues to STRESS the use of large (6”-6-8 lb.) rubber chocks for all medium twin and larger aircraft. Triple Chock aircraft with aft center of gravity.

SMS ROOT CAUSE IN ACTION: DISSECTING A NEAR MISS

How SMS enables participants to analyze near misses for incident/accident prevention

FBO Manager: “Before SMS, we wouldn’t even have looked at this twice. Nothing happened that bent metal or cost us money so we wouldn’t have thought about again. But now, because we are analyzing all events that may have an impact, we are better able to prevent an accident. This is one of those “WINS” that come along with the SMS.

They say success in safety is like fighting a guerilla war, you don’t know what you may have just walked by. In the case of having a functioning SMS, we are now more aware than ever before of what could be, and therefore, we now know what to do to prevent these from happening.

I used this example to show my underwriter what we are doing to improve our safety performance. Suffice it to say, we all walked away from the table happy.

Using the root cause analysis training we received on the NATA SMS Webcasts, we were able to identify all of the factors that could have led to bent metal. And now we are able to head off potential problems before they even happen. As they say in the Webcasts, it’s all about raising safety awareness.”

A Citation X arrived at the FBO late afternoon on a Friday. It was towed to the far aircraft parking area (open area) where it would remain until Sunday. On Saturday morning, the aircraft



NATA Safety 1st eToolkit

was discovered to be sitting at a strange angle on the ramp. The aircraft had been blown by the wind. It spun into the wind, jumping the 4-inch tall nose wheel chock. The 6-inch wheel chock on one of the main wheels appeared to have stopped the aircraft from traveling, other than the pivot movement. The line service crew placed three sets of large chocks on the aircraft after the incident.

The reported wind was 28mph on Friday and Saturday with gusts from 33 to 39 mph.

A thorough investigation using the **5 whys methodology** taught to all SMS participants included the following:

Why was the aircraft found in a strange angle on the ramp?

The aircraft was blown into the direction of the wind.

Why did the aircraft spin into the wind?

A strong gust of wind pushed the aircraft tail with enough force to move the aircraft off of its nose chock.

Why did this aircraft weathervane when others did not? (Other various models were there as well)

Citations (especially the X [ten] model) are well known to be “nose light and tail heavy” and therefore may have been the most prone to this phenomenon.

Why were no other precautions taken?

Standard known procedure only requires two sets of chocks for that size of aircraft.

From the Fishbone (a procedure taught to all SMS participants), corrective solutions and procedures were put into place:

- 1. (Procedures) Triple chock all citation X's and Falcon 10's with (3 sets) of large chocks.**
- 2. (Measures) Wind gauging equipment for the line shack.**
- 3. (Nature & Procedures) Add to company SOP/SMS manual: Move Citation X's into hangars in high wind gusts above 30 mph.**
- 4. NATA alerts all members to chock both mains of the Citation X or triple chock in any winds greater than calm.**

NEWS RELEASE

SafeAir Underwriters™ Announces Alliance with Fireman's Fund Insurance Company®

Stone Mountain, GA, March 9, 2006: SafeAir Underwriters has entered into a Managing General Agent (MGA) agreement with Fireman's Fund Insurance Company (FFIC). “This is an NATA Safety 1st® eToolkit – Volume I, Issue 20 – March 16, 2006

exciting partnership combining SafeAir's extensive aviation underwriting expertise with the outstanding products and services of Fireman's Fund” said Bobby Kitchen, SafeAir's President.

Allianz, Fireman's Fund is not a new name in the aviation insurance industry. FFIC was formerly a member company of AAU and an aggressive HPR market for qualified airport terminals.

The combined partnership will allow exclusive access for SafeAir's brokers to offer FFIC's insurance products to their aviation customers. The products currently being offered are aviation related Property, Premises Liability, Automobile and Inland Marine insurance. D&O, EPL & Fiduciary Liability and additional related coverages will be available in the coming months. **The initial target market is airports, including terminals, towers, fuel farms, fixed-based operations and business jet centers as well as private hangars.** SafeAir Underwriter's Program territory encompasses all states, including Alaska and Hawaii.

The breadth of services will include risk management, 24-hour claims reporting, and access to FFIC's exclusive iCustomer Series®. iCustomer is an internet based series of industry specific portals providing unique and relevant tools and information to assist customers in reducing their business risks. A typical community portal will include loss prevention tools, discounted vendor offerings (employment background screening, driving records, etc.), industry news and links to associated topics and online training materials. These services are all premier value-added services never before offered to the aviation services industry.

G. Frank Jakes, Chairman of SafeAir Underwriters, commented, “Allianz, Fireman's Fund is one of the most financially secure and innovative insurance companies in the industry and our partnership is a perfect match.” Additional pricing discounts will be offered to customers that complete the NATA Safety 1st, SMS Program. This is an exciting opportunity that matches Fireman's Fund program capabilities with SafeAir's experience and knowledge of the aviation industry. For more information, visit www.safeair.net or www.ffc.com or contact **SafeAir Underwriters™**:

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NATA Safety 1st eToolkit

SAFETY GUIDELINES FOR NON-EMPLOYEES AND SPECIAL EVENTS NEW TRAINING FOR NATA SAFETY 1ST PARTICIPANTS IN 2006

Renewal in the NATA Safety 1st Professional Line Service Training Program for 2006 will not only provide you with the most current training updates, but some exciting additional training materials as well. There is a new training presentation included on the CD ROM that will assist with training your line personnel with special events taking place at your operation.

Our new training presentation can be found on the 2006 CD ROM, in the folder called 9 SPECIAL EVENTS TRAINING. It was developed for those that have trained, tested and certified with the PLST and may serve as supplemental training in preparation for special events.

The presentation was developed by several committee members who saw a need to train line personnel for events such as superbowl, NASCAR or golf tournaments in addition to other large gatherings. Significant increases in ramp activity require additional personnel to assist. Staff may be brought in from other bases or businesses to assist with the event. The training provided with this presentation will help you train additional personnel on specific safety issues at your operation. Please feel free to customize it to your specific operation.

A copy of the Safety Guidelines for Non-employees and Special Events presentation is on the Safety 1st Website at http://www.natasafety1st.org/t_resources.htm. Please be sure all line personnel have completed the PLST prior to this additional training. We will be making changes to this presentation as the year progresses and will let you know when subsequent additions have been made.

ANGER AND INJURY



Can mood affect your safety performance?

Temper has its price. A new study shows angry people, particularly men, are much more likely to sustain serious injuries.

Researchers at the University of Missouri studied more than 2,500 patients who had been seriously injured and sought medical care at three emergency rooms in Boone County, Mo.

While anger more than quadrupled a person's odds of being injured, being hostile increased those odds sixfold. Nearly thirty-two percent reported some degree of irritability just before the injury, eighteen percent reported feeling angry and thirteen percent reported feeling hostile.

If you have an employee who is exhibiting hostile or angry tendencies, this person may be more susceptible to a negative event (injury or accident) than an employee who is more balanced emotionally. We should all be on the look out for employees who may be exhibiting tendencies that can cause harm. In every case, it is best to speak with this person and find out what the source of this anger is and determine whether it will affect their performance. You will know in an instant. The ramp is a place for cool temperaments, taking challenges in stride and working as a team.



Professional Line Service Training (PLST) Self-Audit Survey Results as of March 7, 2006

Total Surveys	315	Site Manager:	279
Safety Officer:	261	Line Supervisor:	276
1.	Does your organization have a Safety Mission Statement		221
2.	Does your organization have:		
	Procedures for Reporting Accidents:	Procedures for Reporting Incidents:	307
	311		
	Procedures for Reporting Hazards:	Contingencies for Emergency Contacts:	308
	308		
	Periodic Safety Checks:	Analysis of Safety data:	238
	308		
	Dissemination of safety related information to line service technicians:	301	
	A written training and education program:	297	
3.	Has your organization's Safety Officer/Training Coordinator/Line Supervisor attended the NATA Line Service Supervisor Training Seminar?		203
4.	Does your organization have a process to ensure that all line service personnel commence NATA Safety 1st written and practical exams within 90 days of initial hire date?	281	
5.	Does your organization have a qualified trainer for administering NATA Safety 1st?	273	
6.	Does your organization perform retests?	263	
7.	Does your organization perform practical exams?	277	
	Mark the subject matter(s) that that pertain to your organization:		
	Introduction and Ground Servicing:	Safety:	311
	307		
	Refueling Piston Engine Aircraft:	Refueling Turboprop Aircraft:	305
	295		
	Refueling Jet Aircraft:	Towing:	307
	308		
	Fuel Farm Management:	Customer Service:	306
	298		
	Fire Safety:	Aviation Security:	307
	311		

We want to thank those of you who participated in our Professional Line Service Training Survey and share the results with you. We received 315 surveys out of 597. Although this falls short of the 100% we wanted, it is a very good response and gives you an idea of what is done by many of our Safety 1st participants. To assure anonymity, we did not include specific questions and answers, just total numbers.

Question number 1 asks whether you have a safety mission statement. This answer should be 315 out of 315. The NATA Safety 1st Program Guidelines that your company must sign before delivery of the training program gives a safety mission statement. We encourage you to use this to expand and formulate your own safety mission statement. Perhaps the person filling out the survey was unaware of this, but we recommend everyone have a safety mission statement and all employees at your FBO know what it is.

We found question number 2 and the analysis of data particularly interesting. We want to emphasize if you are participating in the NATA Safety 1st Management System (SMS) for Ground, this statistic would be 315 out of 315. Analyzing FREE data from your historical accidents / incidents is crucial so that you do not continue to repeat the same mistakes (accidents / incidents) again and again. With the SMS, we simplify the process with forms, policies and procedures.

We also want to point out another interesting statistic. Number 3 asks whether your line supervisor has attended the Line Service Supervisor Training Seminar (LSST). This is a required part of our Safety 1st program and all participants need to take advantage of this premier seminar. Be sure to check out the LSST schedule for 2006 at <http://www.natasafety1st.org/supervisor.htm>.

How does your safety system compare with others that took this survey? Better yet, what can you do to improve safety at your FBO? We encourage you to use all of the benefits of our NATA Safety 1st PLST and NATA's Ground SMS to maximize safety at your operation and ultimately your bottom line.



NATA Safety 1st eToolkit

CONTINUING EDUCATION

LAST CALL!

NATA 2006 Annual Convention

– Register Online Today!

March 28-30, 2006 at the Las Vegas Convention Center

Website: [http://www.nata.aero/events/event_detail.jsp?](http://www.nata.aero/events/event_detail.jsp?EVENT_ID=161)

[EVENT_ID=161](http://www.nata.aero/events/event_detail.jsp?EVENT_ID=161)

Hazard Communication: Foundation of Workplace Chemical Safety Program

In order to ensure chemical safety in the workplace, information must be available about the identities and hazards of the chemicals. OSHA's Hazard Communication Standard (HCS) requires the development and dissemination of such information. Make sure you have complied by checking out this valuable information.

<http://www.osha.gov/SLTC/hazardcommunications/index.html>

Line Service Supervisor Training Seminar --- 2006 Schedule At a Glance

March 27 & 28

Hotel & Seminar: Las Vegas Hilton & Convention Center

May 17 & 18

Seminar: New England Air Museum / Hotel: Fairfield Inn by Marriott

June 12 & 13

Hotel & Seminar: Sanibel Harbour Resort

September 13 & 14

Seminar: Air Services Museum / Hotel: Academy Hotel

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

Phone: 386/226-6928

Email: case@erau.edu

Southern California Safety Institute

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

Phone: 310-517-8844 ext. 5

The GW Aviation Institute

Aviation Safety and Security Certificate Program

Website: http://www2.gwu.edu/~aviation/safetyandsecurity/ss_courses.html Phone: 703/726-8334

Transportation Safety Institute

Website: <http://www.tsi.dot.gov/divisions/Aviation/aviation.htm> Phone: 405/954-3614

University of Southern California

AVIATION SAFETY COURSE

Website: http://viterbi.usc.edu/pdfs/unstructured/aviation/Course_Schedule.htm

Phone: 310/342-1345

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.

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 _____