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3rd Quarter 2007

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By Lindsey McFarren

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By David Almy

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By Paul Seidenman & David J. Spanovich

As business aircraft grow increasingly complex, the hangar door is closing on the era of paper-based maintenance tracking. Just as commercial airline maintenance records long ago migrated to the computer, so too is the same information pertaining to business aircraft inspections and repairs.

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A Foundation for Charter Safety

By James K. Coyne

Commercial air transportation has long been divided into two very different camps: Airlines vs. Charter. The airlines operate under Part 121, serve the masses (nearly 700 million this year), operate from fewer than 500 airports, fly fixed routes on fixed schedules, charge by the seat, and generally provide a lower level of service than just a decade ago. Charter operators are regulated under Part 135, serve far fewer people (perhaps a million), fly in and out of thousands of airports at all times of day and night, sell the whole airplane typically at a fixed hourly rate, and provide service quality that is higher than a decade ago.

More and more, typical consumers see the airline flight as a commodity product they must endure, while a private charter is viewed as a luxury worth reaching for. But there is one part of this picture that just doesn't compute: the public considers airlines to be safe, but they get nervous when they think about chartering a small plane. Shouldn't a luxury service be perceived by its potential customers as safer than some mass-market commodity competitor?

The airlines, oddly enough, went down this same path more than 50 years ago when they were trying to get American travelers to abandon trains and take to the skies. Back then, *they* were the luxury product, but *they* also faced a very nervous public. Throughout the forties and fifties, it was common to read newspaper stories of famous entertainers, businessmen, or politicians who lost their lives in airliner disasters. Something had to be done.

The airlines' response was to create the Flight Safety Foundation and launch an industry-wide assault on aviation risks and flight hazards. In less than a decade, the public began to understand that airline travel was safe—safer, in fact, than travel by rail. And the rest is history: passenger volumes increased exponentially and accident rates plummeted.

Air charter is in a similar position today. The public has a vivid memory of charter accidents that have taken the lives of far too many politicians, business leaders, sports figures, and others. Regulators, politicians, and the press are quick to point the finger and often overreact with the sky-is-falling



“solutions.” We can, and we must, do better.

That is why NATA and the Flight Safety Foundation have worked to create a new safety foundation dedicated to improving the safety of air charter operations around the world: the Air Charter Safety Foundation. Simply put, we will do all we can to make air charter safer and make our customers confident that “luxury” also means “less risk.”

In some respects, creating the foundation has been the easy part. We simply invited industry leaders to join together and make a commitment to support our goal. The response has been overwhelming. Virtually everyone we invited to join the Board of Governors has accepted—all of them making a substantial financial commitment, as well.

The first Board of Governors meeting was at the 2007 NATA Air Charter Summit in June. Chaired by Charlie Priester, chairman and CEO of Priester Aviation and former chairman of NATA, it charted an ambitious course, with plans underway to provide training, audits, data collection, seminars, accident analysis, and standard-setting programs across the safety spectrum. Fortunately, we have the 50+ years of history at the Flight Safety Foundation from which we can take lessons, but our programs will surely be unique and different. After all, air charter is a very different animal.

In many ways, air charter safety is the toughest safety challenge in commercial aviation. We fly to more airports than airlines, many of which have limited facilities, sometimes without ever having made an approach there before. Bad weather is frequently why customers seek us out, because someone else cancelled a flight. Our passengers

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President's Message

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often have advanced symptoms of "get-there-itis," which can put added pressure on dispatchers and crew. Plus, the on-demand nature of our business means that the preparation of crew and aircraft is much more difficult—and more important. The established routes and schedules of the airlines make their planning, training, and oversight easier. For us, every day is a new customer, a new destination, and a new test of our safety management systems.

I hope that as a result of the efforts of the Air Charter Safety Foundation, safety management in the charter industry will become foremost among all charter management functions. The FAA has already declared that safety management systems (SMS) will soon be a requirement for all Part 135 certificate holders. Those systems will need new programs for training, benchmarking, best practices, audits, and incident and accident analysis that the foundation can provide. Also, as an independent foundation, it can work closely with government and private safety experts to develop new risk mitigation strategies.

Over the next twelve months, we will be inviting hundreds of air charter operators to join the foundation as founding members. If you want to be part of this effort, please call us at (888) SAFE-135. After you review the membership materials, I know you will agree that raising the bar on safety within the air charter industry will benefit every operator and help you and your customers lay the *foundation* for a strong, safe, and prosperous future.



											
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Our Vision

By Lindsey McFarren

On-demand air charter is one of the safest modes of transportation. This is not my opinion—it's fact, based on statistics available from the National Transportation Safety Board (NTSB). In fact, the industry just achieved its lowest total accident and fatality rate in ten years (see "The View from FL 300" for charter stats). So as the industry celebrates its stellar safety record for 2006, what is the point of a new foundation dedicated only to the safety and security of charter operations?

The Air Charter Safety Foundation (ACSF) vision is to promote safety and security of air charter in the U.S. and worldwide. Certainly a worthy, noble cause, but exactly how does ACSF and its governing bodies—the Executive Committee and the Board of Governors—intend to achieve this vision?

The Board of Governors met recently and determined the first goals for the ACSF. Two are intricate, ambitious goals, requiring nothing short of cultural change within the entire charter industry. Others are shorter-term projects, likely to have a more immediate effect on individual operators who choose to take advantage of them.

The first complex goal is a single audit standard, acceptable and satisfactory to all factions of the industry. Any charter operator can list the multitude of audits currently "required" to provide services to a specific fractional provider, broker, or even corporate customer—assuming they have enough fingers and toes to count that high. These audits cost operators tens of thousands of dollars each year and vary in levels of value.

The goal here is not only to create a uniform standard, but to raise the bar for many operators who undergo an audit haphazardly or merely to put the "right" logo on their website. The ACSF has begun drafting such a standard and is incorporating the best practices and standard operating procedures of the industry's safest, most highly respected opera-

tors. A group of almost 20 operators, charter brokers, auditors, insurance companies, and charter customers is drafting the audit standard with ACSF guidance. The group has begun writing the auditor manual and will soon train auditors nationwide on the new audit standard. Operators who successfully meet the ACSF standard will be featured in an online registry that is available free to the public, including charter brokers and charter clients.

I have no misconceptions that this audit standard will be immediately accepted industry-wide with open arms. As with any major cultural change, this new audit standard will gain acceptance one operator, one customer, and one aircraft owner at a time.

I know the hard work is not over when the standard is completed. The efforts will have only just begun. Once the manuals are drafted and auditors trained, the ACSF will then commit to overseeing the audit standard to ensure that integrity and quality are maintained from one auditor and operator to the next.

The ACSF's second major task is to collect independent, objective data. The ACSF will undertake two data-collection projects. The first will collect safety event data. That is, an event that does not require reporting to the NTSB or the Federal Aviation Administration (FAA), but that could have led to such an accident or incident. This data will be de-identified by a third party and analyzed by ACSF staff. The data will also be available online to ACSF members. This project will provide the ACSF and its members with potentially lifesaving trends of "oops" moments that could have ended in disaster.

The ACSF will also collect general activity data. The FAA has been collecting data through an annual activity survey, and although response has increased each year, the survey is still not completely indicative of industry activity. Obviously, we as an industry know how many accidents and incidents are reported in a given year. But it's this simple: If we are not quite sure how much the industry flies,

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AIR CHARTER
SAFETY
FOUNDATION

Inside Washington

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how can we be completely confident in our safety statistics?

The ACSF will develop an activity survey and administer it through an independent, third-party data-collection entity. Some of the industry's brightest minds are working to determine the most crucial data required for reliable, significant statistics. This quarterly or monthly data will allow the ACSF to better determine a benchmark for safety statistics and more accurately identify safety trends.

Clearly, these efforts are long-term projects, requiring months, even years, of cultural change and acceptance from the industry. While the ACSF is dedicated to these tasks, it will also pursue several short-term goals.

The ACSF will develop a timely, informative website. The site will present several member resources, including guidance materials drafted by the ACSF and an online directory of existing resources from government agencies and private sources. The site will also incorporate constantly updated charter aviation safety news.

February 2008 will bring the first-ever safety event dedicated to the unique needs of the charter

industry—the Air Charter Safety Foundation Safety Symposium. The FAA and NTSB are partners with the ACSF in this event. In fact, the NTSB is hosting the symposium at its training center in Ashburn, Va. Symposium speakers to date include FAA and NTSB representatives, and industry experts have been invited.

A quarterly print publication will identify and address current safety and security issues. The yet-to-be-named journal will feature articles by respected operators and other industry experts, including the occasional familiar face from the federal government.

Meanwhile, the ACSF will be working on more subjective, less measurable goals. It will reach out to government agencies and the media to provide accurate, objective information regarding the air charter industry. It will help individual members reply to safety- and security-related press inquiries and guide operators in incident and accident response. And it will continue the great work NATA does on safety management systems for operators, teaching members how to implement an SMS in their companies.

I think you will agree that any charter aviation accident, whether a single-engine piston airplane flying checks at 3 a.m. or a Gulfstream crossing the pond, is a mar on the entire industry. It is time the charter industry face this reality head-on. It is time the industry come together under one independent, objective body to improve its own future. It is time for the Air Charter Safety Foundation. Join us in achieving our vision.

Lindsey McFarren is director of the Air Charter Safety Foundation. You can contact her at (888) SAFE-135 or lmcfarren@acsf.aero and visit the foundation at www.acsf.aero.



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A J-H-A for Your J-O-B

By Russ Lawton

Almost every job has some element of risk associated with it. Okay, so maybe compared to conducting night landings on an aircraft carrier your job seems like a piece of cake. But there are most likely some tasks you perform every day that are potentially hazardous.

What do we mean when we say something is hazardous or risky? A hazard is a condition, object, or activity with the potential to lead to an unacceptable loss. Risk is the likelihood that someone will be injured or property will be damaged as a result of the hazard. We classify risk in terms of probability (how often will it occur?) and severity (how bad will it be when it occurs?).

For example, an aircraft parked in a hangar with unprotected static wicks on the trailing edges of aircraft surfaces is a hazard. The possibility that

someone could walk into a static wick and get injured is a risk. Following the industry best practice of placing a guard over the static wicks reduces the risk of injury.

How do you identify the hazards and associated risk with your job? One method is to conduct a job hazard analysis or JHA. We've designed a JHA form to help you organize the process (see below). Begin by listing the basic job steps in the form's first column.

Let's use the example of a line service technician who is about to fuel an aircraft. The technician must first drive the fuel truck to the aircraft. What are some potential hazards with operating the fuel truck? (Enter this list in the form's second column.) Some possible hazards include:

- The truck might not be in safe condition to drive

Continued on page 16

BASIC JOB STEPS		HAZARDS UNSAFE ACTS/CONDITIONS		HAZARD CONTROL ACTION	
1. Drive fuel truck to aircraft.		• The truck might not be in safe condition to drive		<ul style="list-style-type: none"> • Inspect the truck at the start of each shift • Train each driver on inspection procedures • Perform scheduled truck maintenance/inspections • Immediately remove the truck from service if unsafe to use 	
AUDITED BY – DATE:	SAFETY APPROVAL	OTHER APPROVAL	DATE REVISED	DATE REVIEWED	

Safety Watch

Continued from page 15

- The ramp is congested
- There is adverse weather (e.g., thunderstorms, snow/ice, etc.)


You can probably envision the possible bad outcomes that could result from any of the above circumstances. However, being an astute risk manager who wants to reduce the possibility of injury or damage, you've established a refined set of controls to counter these hazards. To ensure the truck is in safe operating condition, you've implemented the following hazard controls (listed in column three):

- Inspect the truck at the start of each shift
- Train each driver on inspection procedures
- Perform scheduled truck maintenance/inspections
- Immediately remove the truck from service if unsafe to use

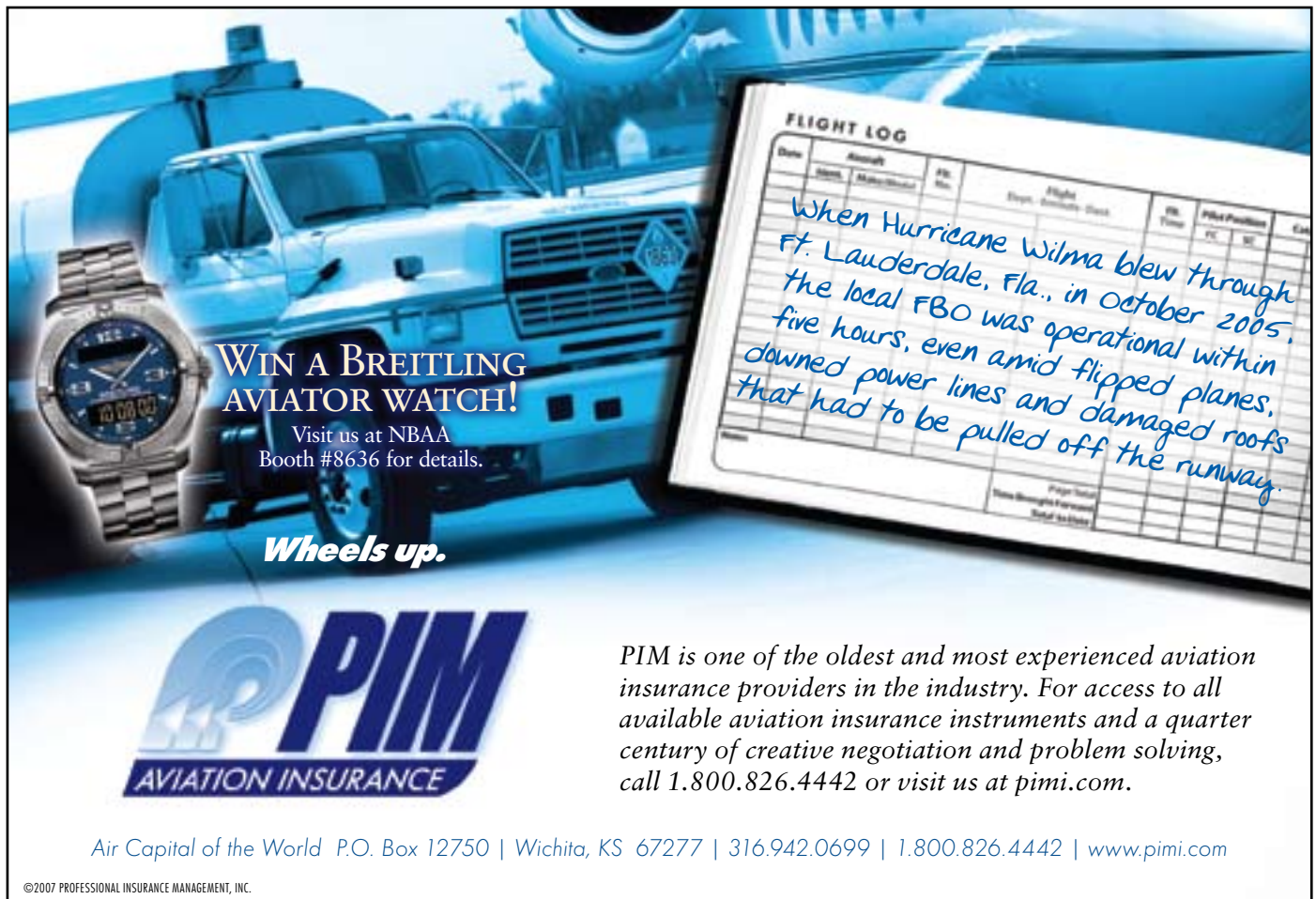
Your goal should be to list all the methods of controlling each hazard you've identified until you believe all practical possibilities have been exhausted. Then move on to the next task in the fueling

process, which might include the hazards involved with approaching the aircraft, such as truck speed, distance, etc. Continue analyzing each step of the fueling process until the truck is back at its assigned parking spot.

A word of caution: Always involve the people most familiar with a job task in the job hazard analysis process, which in this example are the line service technicians. This is the only way to get a realistic assessment of the hazards involved and an honest view of how to control the resulting risks.

It's important to document the entire job hazard analysis. Once you're done, a periodic review is in order to determine whether the hazard controls you've implemented really work or need tweaking. A review is definitely needed if an incident/accident occurs or the operation changes, such as new equipment, expanded operations, etc. 

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Examining All Sides of Air Charter Safety

By Lindsey McFarren

This edition of the *Aviation Business Journal* is largely focused on air charter safety. To discuss the topic appropriately, readers must understand the makeup of the industry, including the number of operators, fleet sizes and types, and activity types.

The Industry: View from FL 300

The air charter industry is composed of Part 135 certificate holders, 91(K) authorized fractional ownership managers, and Part 91 management companies. Not to be forgotten are brokers, customers, vendors (insurance companies, maintenance facilities, attorneys, FBOs, airports, and others), government agencies, and the media. Yes, the media is an important, though often forgotten until disaster hits, component of the air charter industry.

Active Part 135 certificates nationwide numbered around 2,347 as of May 30. (“Active” Part 135 certificates have current Operations Specifications [OpSpecs] issued.) Of these, 22 operators have joint Part 121 and 135 certificates, nine have both Part 135 certificates and 91(K) authorizations, and two have only 91(K) authorization and no Part 135 certificate. Combined, these operators fly more than 11,200 aircraft. However, anyone familiar with the industry

knows Part 135 numbers—whether certificates held, OpSpecs issued, or aircraft on those OpSpecs—are constantly in flux, so these data are to be taken with a grain of salt.

More than half of the 2,347 certificate holders operate two or fewer aircraft. Although large operators have significant visibility, only a very small percentage of charter operators have more than ten aircraft on their OpSpecs. In fact, on a list of the 100 “largest” Part 135 certificate holder fleets, four is the magic number. That’s right—if you have 4 or more aircraft on your OpSpecs, you’re one of the big guys!

Approximately 35 percent of all aircraft used in Part 135 operations are piston-powered airplanes. Turboprop airplanes make up 17 percent, and jet airplanes conduct 26 percent of Part 135 operations. The remaining Part 135 operations, about 23 percent, are performed in rotorcraft.

In 2006, on-demand (also referred to as non-scheduled) Part 135 air carriers had just 54 accidents, down almost 20 percent from previous years. Ten of these were fatal, accounting for a total of 16 fatalities and a fatality rate of only .28 fatalities per 100,000 hours flown. The overall accident rate for on-demand Part 135 operations was 1.50 per

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Table 1.

	Accidents		Fatalities		Accidents per 100,000 Flight Hours	
	All	Fatal	Total	Aboard	All	Fatal
Part 121 U.S. Air Carriers						
Scheduled	25	2	50	49	.132	.011
Nonscheduled	6	0	0	0	.909	-
Part 135 U.S. Air Carriers						
Commuter	3	1	2	2	1.071	.357
On-Demand	54	10	16	16	1.50	.28
U.S. General Aviation	1,515	303	698	538	6.64	1.32

Source: National Transportation Safety Board

100,000 flight hours. Of particular note, there were zero fatal accidents in passenger-carrying operations using turbojet airplanes.

How do Part 135 non-scheduled aviation accident statistics compare to other sectors of the aviation industry? Table 1 presents 2006 preliminary statistics for Part 121, Part 135, and U.S. general aviation. When compared to general aviation, the charter statistics look pretty good. General aviation suffered 1,515 accidents in 2006, with 303 of them resulting in more than 698 fatalities. Table 2 compares general aviation and Part 135 accident rates over a 10-year period.

If the charter industry is looking for a goal to as-

pire to, we need only look as far as the scheduled Part 121 industry. With a scant 25 accidents in 2006 and only 2 of them resulting in fatalities, scheduled Part 121 operations achieved an accident rate of .132 per 100,000 flight hours and only .011 fatal accidents in 100,000 flight hours. Table 3 compares Part 121 and Part 135 accident rates over a 10-year period.

Two Sides to Every Story

Certainly the on-demand Part 135 safety statistics mean charter aviation is one of the safest modes of transportation, but we are all familiar with tragic accidents

that occurred on positioning legs flown under Part 91 operating rules. These accidents don't "count" against the Part 135 statistics (or Part 121 statistics, for that matter). Instead, they fall in place with all the other general aviation accidents.

Isn't it appropriate for accidents that take place while operating under Part 91 to fall squarely within GA statistics and for Part 135 accidents to mean "only those operating under Part 135 at the time of the accident"? After all, that's what the NTSB category reads: "U.S. air carrier operating under 14 CFR 135." But should the charter industry hold itself accountable for accidents that occur on Part 91 positioning legs? These flights, while operationally

Table 2. GA vs. Part 135 Accident Rate 1997-2006

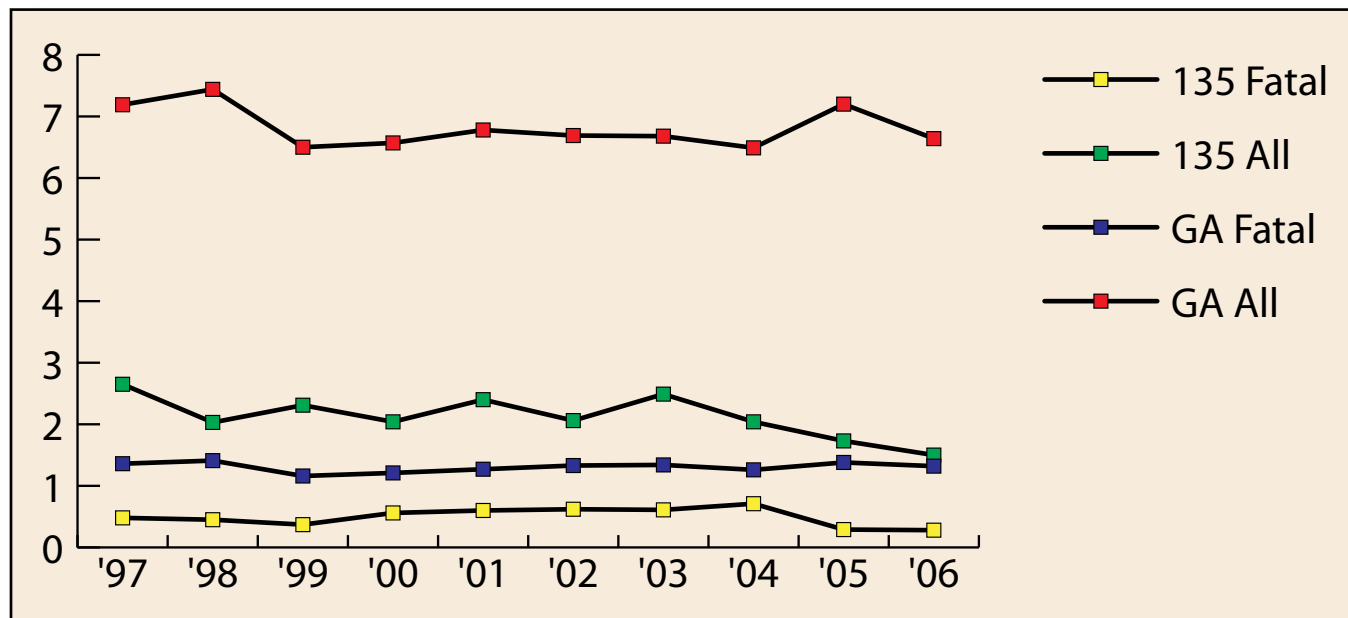
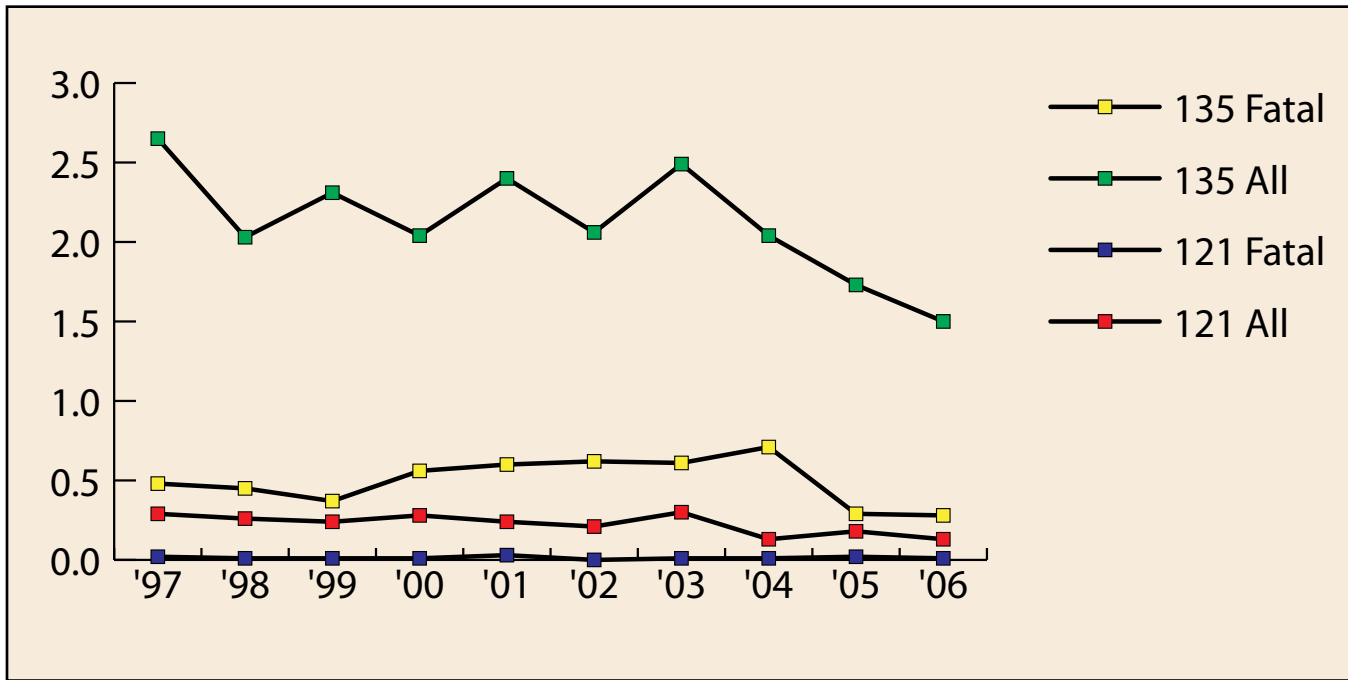


Table 3. Part 121 vs. Part 135 Accident Rate 1997-2006



non-commercial because no passengers or cargo are carried, are nonetheless conducted at the request and for the benefit of the certificate holder. Well, the answer is a qualified “maybe.”

In fact, it is likely that a case-by-case determination based on the facts of particular accidents is needed. Although there are lessons to be learned from any accident, those that occur under Part 91 operating rules but under the direct control and oversight of a Part 135 certificate holder deserve the industry’s studious attention.

A recent FAA Safety Alert for Operators (SAFO) spoke directly to Part 91 positioning legs. According to the SAFO, of all turbine airplane accidents from 1997 through 2005, 48 accidents (more than one quarter of all turbine airplane accidents in that timeframe) occurred during a flight the NTSB identified as a “positioning” flight in the accident report. The purpose of the positioning legs included picking up passengers, maintenance ferry flights, “tail end” ferry legs, and other reasons.

One pointed example is a June 2004 accident involving a Beech 200. According to the NTSB probable cause report, an IFR flight plan and slot reservation had been filed for the planned flight over mountainous terrain. The flight crew intended to reposition to an airport about 30 miles southeast of the initial departure airport, pick up passengers, and then complete a revenue flight to another

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We must also delve into those accidents included in the general aviation statistics. These accidents provide lessons we can use to make changes to our procedures, decision-making processes, and even corporate cultures to avoid similar accidents in the future.

Air Charter Safety

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airport. The airplane departed VFR, and the flight crew never activated the flight plan. Instrument meteorological conditions prevailed near the accident site about the time of the accident. Both crewmembers died. Of particular note in this case is the certificate holder's record: The aircraft operator was involved in two prior weather-related accidents, both of which resulted in fatalities. A third accident went unreported, and the weather at the time of that accident was unknown.


What practices and policies were in place to address these issues? Did the corporate safety culture

of the Part 135 operator contribute to the crew's operational decisions that day? What direction and leadership were provided by the management and executives of this air carrier?

The charter industry must take ownership and responsibility for Part 91 accidents like this one that occur at the request and under the supervision of a Part 135 certificate holder. That said, the data do not make this an easy task. The several Part 91 positioning flight accidents that occur each year are lumped in with more than 1,000 of the more traditional general aviation accidents, which include everything from a student pilot crumpling landing gear to large business jets on corporate or personal flights. And the concept of a "positioning" flight is not uniformly applied. Flights labeled as "positioning" could be from one Part 91 corporate flight to another or any combination of scenarios that don't involve a Part 135 operator. Only a thorough review of the narrative of a particular accident can determine if it occurred while under the control of a Part 135 operator. And that assumes a detailed narrative is available!

Good Work Must Continue

The bottom line is that the air charter industry must not rest on its laurels following a seemingly "good" year. If, as an industry, we are truly committed to safety, we cannot just celebrate the on-demand Part 135 statistics reported by the NTSB. We must also delve into those accidents included in the general aviation statistics. These accidents provide lessons we can use to make changes to our procedures, decision-making processes, and even corporate cultures to avoid similar accidents in the future. We must also call upon the NTSB to provide more detailed information on Part 91 accidents so all industry segments can better analyze the data to identify trends.

There are two sides to every story, even something as "objective" as statistics. Yes, we are and should be very proud of our ability to move passengers and cargo safely across the country and around the world. But we must not neglect our noncommercial operations. It's time we examine the "other" side. 

Lindsay McFarren is director of the Air Charter Safety Foundation. She can be reached at lmcfarren@acsf.aero or (888) SAFE-135.

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When Can an On-Demand Charter Really Be a Scheduled Flight?

By Jacqueline Rosser

At the recent 2007 NATA Air Charter Summit, jaws dropped when an attorney with the Federal Aviation Administration (FAA) explained to attendees that the manner in which many empty legs are posted or otherwise offered to the public may in fact violate the FAA's rules prohibiting scheduled service in turbojet-powered aircraft under Part 135.

As part of a broader discussion involving the future of brokers, Joe Conte, manager of the operations law branch within the FAA Chief Counsel's office, touched on a subject gaining attention within the agency: defining what is and, more importantly for Part 135 operators, what is not a schedule. In recent years, operators have found methods to alert consumers to available empty-leg flights (also called positioning, one-ways, and deadheads). But operators should proceed with caution because, according to Conte and a 2006 FAA legal interpretation, these flights may in fact meet the definition of a "schedule" and therefore must be conducted under Part 121 if a turbojet-powered airplane or an airplane with more than 9 passenger seats is used.

Current regulations define a scheduled operation as one where the operator holds out to the public, in advance, the departure location, departure time, and arrival location. In the 2006 interpretation, the FAA expanded upon what conditions might lead to a determination that an on-demand operator has conducted an operation meeting the three elements of a schedule. This interpretation as well as other relevant FAA legal interpretations are available for download at www.nata.aero/emptylegs.

During his presentation, Conte noted that when an on-demand operator offers the use of an "idle aircraft" that includes a relatively brief departure

window and if the operator states the location where the aircraft must arrive, the FAA will likely consider the operator to have "held out" the flight and to have operated on a scheduled basis. Importantly, beginning with the introduction of Part 119, all scheduled operations using turbojet-powered aircraft (or using any piston or turbo-prop airplane with more than 9 passenger seats) must be conducted under Part 121.

In 1997, a new set of FAA regulations took effect that dramatically changed the regulatory environment for all air carriers. Commonly known as the "Commuter Rule," the new 14 CFR 119 (Part 119) reclassified the certification and operations specifications requirements for air carriers. The most significant change was that scheduled commuter operators previously operating under Part 135 were transitioned to Part 121. As part of this transition, the FAA restricted the ability of Part 135 on-demand operators to conduct even occasional scheduled operations. Under today's rules, an on-demand operator may conduct scheduled flights in an airplane under these limited conditions:

1. The airplane used must be piston- or turboprop-powered,
2. The airplane used must have a maximum seating capacity of 9 passenger seats or fewer,
3. The airplane used must have a maximum payload of 7,500 pounds or less, and
4. The operator is limited to conducting fewer than five round trips per week between any two points.

Therefore, whenever a turbojet-powered airplane is to be used in an operation that meets the defini-

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On-Demand Charter

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tion of a scheduled operation, that flight may not be conducted under Part 135 under any circumstances. Scheduled flights in turbojet-powered airplanes must be conducted under Part 121 regulations.

The restrictions outlined above are articulated in the definition of “on-demand operation,” while the three elements of a schedule are found within the “scheduled operation” definition. Both definitions can be found at 14 CFR 119.3.

Any empty-leg flight offered (either directly or through a broker) by an on-demand operator is subject to a possible FAA determination that the operator is offering scheduled service without holding proper authority (i.e., a Part 121 certificate), and is therefore in violation of the regulations, when the operator offers the departure date, departure location, and arrival location and if such flight will be in a turbojet-powered airplane.

How to Offer Empty-Leg Flights

So how can an operator offer empty-leg flights without running afoul of the regulations? The FAA interpretation asserts that any time the three elements (departure location, departure time and arrival location) are held out for a passenger-carrying operation, it is a scheduled operation.

Consequently, if an operator sets only two of those three elements, the FAA likely will not deem the flight to have been a scheduled operation. If any one of the three elements is of the customer's choosing, then the flight can be viewed as an on-demand operation.

During the informal discussion with NATA members during the Air Charter Summit, Conte was clear that if only two elements are held out and the third is at the customer's discretion a schedule does not exist. However, he cautioned that the third element must genuinely be determined by the customer. This position is supported by the 2006 FAA legal interpretation. When pressed on the issue of “departure time” windows, Conte indicated his belief that the agency would not likely deem a five-day departure window as establishing a departure time element, but that a 48-hour window (or less) would likely be deemed to be establishing a departure time.

Specifically the interpretation states: “Having a time set within which the aircraft must leave satisfies the ‘departure time’ element,” and “the shorter the departure window..., the more it looks as though this is a scheduled operation.”

As an example, an operator may list on a website that an aircraft is available for a charter from Springfield, Ill., (SPI) to Lexington, Ky., (LEX) within a specified three-day window. If a customer calls

to book this flight, that customer must be allowed to depart at a time of his or her choosing. The operator cannot during this phone conversation explain that the aircraft is available for the listed price only if it departs within the next 24 hours. (See the Q&A sidebar for more examples.)

Similarly, if an operator defines a departure location and time but establishes a broad arrival destination, Conte indicated that the agency would again likely deem the flight to have been an on-demand operation.

No specific information on the exact meaning of departure location and arrival location has been given, and there does not appear to be any prior interpretations or guidance on the precise meaning of the terms, leaving the FAA with additional opportunity for interpretation.

Don't Hide Behind Vagueness

NATA cautions operators attempting to get around the regulations by using vagueness in defining locations, unless the precise departure and/or arrival airports are truly subject the customer's desire. For example, offering a flight from Southern California to the New York area when in fact the customer will be required to meet the aircraft at Carlsbad (CRQ) for a flight that will land at Teterboro (TEB) is not likely to pass FAA review. However, if the offer was genuine in that the customer could specify any Southern California airport (that the aircraft could legally use) and any airport in the greater New York area for arrival, the FAA could very easily approve the deal, particularly if there is a large window of opportunity for departure time.

Operators should ask themselves how the customer who booked an empty-leg flight would answer these questions if they were posed by an FAA inspector after flight completion:

- Did you choose your departure airport, departure time, and/or arrival airport?
- Did you believe you had any flexibility in determining these factors?

Ultimately, in any potential investigation, the FAA is likely to review the totality of the circumstances in deciding whether a schedule was held out to the public.

This information should not be construed to be legal advice with regard to any specific advertisement or aircraft operation. It is merely intended to provide information to aid operators in understanding the current issues surrounding the status of empty-leg flights and how the FAA may evaluate such flights. Operators are encouraged to consult appropriate legal counsel with specific questions about their empty-leg flight offerings.

Q & A

1. If I offer only two elements of a schedule on a website and then verbally communicate the third element, I haven't published a schedule, so am I still legally operating the flight under Part 135 on-demand rules?

Example: Website offers a GV as available for a flight from VNY to HPN, but no departure time/window is noted. A customer contacts the operator (directly or via a broker) and is told that the flight is indeed available for the quoted price but only if it departs VNY within the next 24 hours.

Answer: Based on information in FAA legal interpretations and comments offered by the FAA, this type of operation could be determined to be a scheduled operation. The three elements that define a schedule are all present (departure location: VNY, arrival location: HPN, departure time: within 24 hours). That only two elements were "published" and the third (time) was a verbal statement is irrelevant. Note that the regulations do not require a schedule to actually be published for one to exist. Even though an exact departure time was not specified, the passenger is limited and must leave within the specified 24-hour window. The FAA has indicated that the narrower the departure window is, the more likely it is that the operator will be deemed to be holding out a scheduled flight in situations similar to the example.

2. What if I have an airplane based at TEB that is at VNY (the result of a one-way booking) and I offer the aircraft via a broker to any customer willing to depart VNY within the next 24 hours on an eastbound flight?


Answer: It is likely that you have not met the "arrival location" element necessary for establishing a schedule. Based on FAA information, you have likely established the other elements: departure location and departure time. To avoid the third element, the customer must truly be able take the aircraft to any eastbound location of his or her choosing, so long as the operator and aircraft can legally go to that destination (i.e., the runway is long enough for the airplane to land safely).

3. The empty-legs are really just a posting of my future Part 91 flights unless and until someone books the flight. Therefore, isn't it true that I have not held out a scheduled flight?

Answer: You may certainly argue that the flights posted are only a listing of future Part 91 flights. However, the concern is over what ultimately happens with regard to a specific flight and the level of control over any of the three elements that the customer was actually able to exercise. These evaluations can be done post-flight.

The most important regulatory determination is whether a "scheduled operation" (as defined in §119.3) occurred. So, while you may argue that the empty-leg posting did not per se violate FAA regulations (particularly if the flight is never booked by a customer), the FAA could still evaluate any flight operation after the fact to determine the conditions of the flight and which party determined each of the three elements that comprise a schedule.

4. I have a customer that booked a charter flight with us but will not utilize the full capacity of the airplane and indicated a willingness to share the flight with other passengers to reduce costs. Can I advertise this flight? Can I verbally steer customers that call to book flights to this arrangement?

Answer: The FAA has stated that even if the initial customer's flight is purely an on-demand charter, the act of telling other third-parties about that flight could constitute holding out a schedule to those additional customers. That the first customer was on-demand does not influence an FAA finding that the additional customers were sold a scheduled flight. The FAA's position is that whenever the three elements establishing a schedule are present, a schedule is indeed being offered. The FAA has stated it is irrelevant how the schedule is presented to the customer—verbally, Internet, advertisements, or any combination thereof. 

Jacqueline Rosser is NATA's director of regulatory affairs. She can be reached at jrosser@nata.aero.



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Lessons from NATA's Air Charter Summit

By Jacqueline Rosser, NATA Director of Regulatory Affairs

There was much to learn at the 2007 NATA Air Charter Summit. If you didn't attend the summit, here are the top five issues you didn't hear about firsthand.

1. Empty-leg postings could be considered scheduled flights by the Federal Aviation Administration (FAA).

Yes, they could be if certain conditions are not met. According to an FAA lawyer speaking at the summit and recent legal opinions, it is possible for empty-leg flights to cross the line between on-demand and scheduled operations. There are three elements that create a schedule if set by the operator: departure location, departure time, and arrival location. As long as the customer can determine at least one of those elements, the flight is on-demand. However, if the three elements are "held out" by the operator and a customer books that trip, the FAA may deem the flight a scheduled operation. (See related article on page 25.)

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FAA headquarters attorney Joe Conte raised the hackles of the audience—and a loud collective groan—when he suggested that certain "on-demand" flights for one client might be considered "scheduled" for another. The controversy generated guidance appearing in this issue of *A B J*



Senior leaders of several fractional providers addressed attendees on new business opportunities and best practices for charter providers supplying surge capacity to them. Those taking questions included (from left) Steve Hankin, president and COO, Jet Direct - Sentient; James P. Miller, executive vice president, Flight Options; David W. Gross, vice president of operations, Bombardier Flexjet; and James Christiansen, president, NetJets Aviation.





FAA Director of Flight Standards James J. Ballough, chief of regulatory enforcement for 135 certificate holders, received NATA's 2006 FAA Customer Service Excellence Award for his collaborative, responsive approach to industry concerns. He reiterated the FAA's emphasis on charter safety. More than 375 FAA POIs report up through the agency to Ballough.

NATA Air Charter Summit

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2. FAA regulations to require safety management systems are closer than you think.

According to FAA Flight Standards Service Director James Ballough, regulations to require operators to develop and implement a safety management system (SMS) are already well underway at the FAA. SMS is a systematic, comprehensive program for the management of safety risks. These programs integrate operations and technical systems with financial and human resource management for all activities. A rulemaking proposal could be released as early as next year as the FAA has signed international agreements calling for SMS implementation no later than January 2009.

3. A008 has created a boom in new Part 135 certification requests.

According to FAA Manager of the Commuter, On-demand, and Training Center Branch Hooper Harris, an uptick in the number of aircraft owners seeking their own Part 135 certificate is yet another consequence of the FAA's focus on operational control. Owners have often placed their aircraft with an existing operator to avoid the lengthy process (and hassles) involved with certification. The restrictions resulting from the new A008, whether real or perceived by owners, have apparently prompted some to reconsider and seek their own air carrier certificate. However, NATA has learned that depending on the local FAA office, many new certificate applicants will have a considerable wait because current staff resources won't permit acceptance of additional certificates to manage and oversee. Operators shouldn't fear a flood of new competition; in fact,

Former NBC Nightly News correspondent Robert Hager (left) received the 2006 NATA Industry Excellence Aviation Journalism Award from NATA President James K. Coyne for decades of unusually responsible and insightful reporting on aviation. "He has been remarkably balanced in his reporting," Coyne said.





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according to FAA records the overall number of Part 135 certificate holders has been on the decline in recent years.

4. NATA's IC Check software could revolutionize FAA inspection/oversight.

A brand new software solution designed from the ground up for Part 135 on-demand operations was revealed to the industry. Called IC Check (IC for "in compliance"), the program provides the operator with a compliance-dependant flight release only when all regulatory and company-configured requirements are met. IC Check fully integrates with many existing flight-planning, maintenance-tracking, and auditor systems to make the most of existing tracking programs, but IC Check brings it all together to ensure a compliant flight before release. The system is so revolutionary that the FAA has even indicated that certificate holders using IC Check could be used by FAA inspectors—with the operator's permission, of course—to conduct "virtual" surveillance, cutting down on intrusive and resource-intensive on-site visits.

5. National Transportation Safety Board (NTSB) and the FAA endorse the new Air Charter Safety Foundation and pledge to support its efforts.

NTSB Member Deborah Hersman and FAA Associate Administrator for Aviation Safety Nicholas Sabatini endorsed the creation of the Air Charter Safety Foundation (ACSF), which was formally announced to industry during the summit. Sabatini saluted the formation of the ACSF, calling it an example of NATA's and the industry's commitment to bring safety to even higher levels. He said that it will make a positive difference in aviation safety. Hersman has since followed through with her endorsement, offering NTSB support and participation in ACSF's first safety symposium, scheduled for February 2008.

These are just some of the news-making stories you missed if you didn't attend this year's summit. Be sure to join us in June 2008 for the next NATA Air Charter Summit.



Former Senate committee counsels Rob Chamberlin (center) and Sam Whitehorn (left), both now executive vice presidents for McBee Strategic Consulting, reviewed the status of the FAA funding debate still wending its way through Congress. All agreed that the FAA's funding proposal, which would have imposed significant user fees on business aviation, was DOA.

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Successful Flight Training Business Requires an Attitude Adjustment

By Dan Kidder

In an industry dominated by principles defined more than 60 years ago, innovation has been slow to develop. Today, many flight schools still fall back to teaching the basics à la Wolfgang Langewiesche and *Stick and Rudder*. Langewiesche, who would have been 100-years old this year, taught his students one overriding principle of flight that many in the flight training industry should take to heart: attitude determines altitude.

While these basics of flight are still sound, more innovative techniques for imparting the art and science of flying abound.

Aviation Business Journal spoke with retired Brigadier General John Lotz, of Monterey Bay Aviation and a member of the NATA Board of Directors, about new innovations in flight training. Lotz attributes success in flight training business to a customer-centric approach, using business strategies throughout the organization to best serve customers. His approach examines who the customer is; what his or her capabilities, needs, and desires are; and how to best tailor a training curriculum to meet those needs. This allows the company to understand and serve the customer better at a lower cost with better results.

This topic is near and dear to Lotz's heart. He has applied these innovative business techniques in theory, as part of his Master's thesis at Harvard Business School, and in practice both as assistant adjutant general for the California Air National Guard and in running his own successful flight training business at Monterey Bay Aviation.

Focusing on the Customer

For Monterey Bay Aviation, the recipe was one of looking at the customer base, determining whom they were serving, and adapting the curriculum to better serve their slice of the flight training customer base.

"The thing I tried to do was to be very careful to define my market to decide who I was going to be selling goods and services to," Lotz said.

Instead of the typical flight training customer, Lotz discovered that his particular marketplace serviced a mainly heavy aviation user. These business travelers frequently used charter aviation, had the means to pay well for services, and were often interested in purchasing their own aircraft and hiring pilots or learning to fly themselves for much more than recreational use. Lotz defined these customers

Using simulators and FTDs allows students to learn difficult maneuvers and principles on the ground at a much lower operating cost and then demonstrate them in the airplane.

as APUs for Affluent Personal Users.

"These were all of my business and professional friends who use aircraft or rent aircraft for serious use. These are not casual users," Lotz said. "I said, 'This is going to be my market. This is who I am going to cater to.'"

Once he had defined his base customer, Lotz set about developing a curriculum that met the FAA Flight Training Standards and the needs of this unique market segment.

"I asked myself what kind of environment do these customers like and deserve, and what kind of equipment and practices should we engage in," he said. "That differentiated me from the get-go in terms of how most operations set up their businesses."

Lotz scrapped the equipment used by the previous owners. He purchased new Cessna 172s and made sure his instructors were the most qualified pilots around. As Lotz set about improving the quality, he also raised the rates he charged for instruction.

Lotz joined the Cessna Pilot Center program as a means to provide structural support for his business. "Cessna had the infrastructure in place to allow us to provide greater utility, greater efficiency, and thus greater value to our customers," he said.

"If on one hand I am going to charge aggressively for above average services, equipment, and personnel, on the other hand I take very seriously the need to reduce the costs in total as much as I can anywhere in my operation," he said. "So the Cessna Pilot Center, through a structured, well thought out, well designed program, enabled us to get students through the private license in 55 hours on average nationally, when the AOPA [Aircraft Owners and Pilots Association] was saying the average across the United States for all operators to get the private pilot license was 80.1 hours. It also gave me a structure that allowed me to try to beat the 55-hour average."

Putting Technology to Work

To minimize flight hours while not sacrificing training, Lotz introduced flight training devices (FTDs) into his training curriculum. In this way he could operate similarly to FAA Part 141 Pilot School operations while still offering Part 61 Private Pilot Instructor training. By introducing this emerging technology, Lotz realized his other goal of producing safer and better pilots.

According to Victor Veltze of Frasca International, an FTD is a training device that consists of a set of pilot controls identical to an aircraft and a screen

that replicates the aircraft's movement in response to the pilot's manipulation of the controls without simulating the actual movement of the aircraft. A simulator, on the other hand, usually has a wider screen, which wraps around the cockpit and integrates a series of computer-controlled servos and pistons to cause the cockpit to actually move in response to the pilot's actions.

Both Lotz and Veltze said they have met resistance from some Certified Flight Instructors (CFIs) in using simulators but feel that the majority of the opposition is self-serving. They said that many CFIs are worried about losing actual flight training hours by teaching maneuvers in the FTDs and simulators.

Lotz saw the benefit of the FTDs long before he implemented the technology. "This was five or six years ago, and the same Cessna 172 flight training device that Frasca sells now for \$220,000 was selling \$450,000," Lotz said. "So we had to wait until the pricing curve got better."

For Monterey Bay Aviation the time was right about 18 months ago, and they were able to get their FTD program online.

This move came at around the same time that Embry-Riddle Aeronautical University (ERAU) also realized the savings potential of using Level 6 FTDs for training. Unlike some state-of-the-art flight simulators, the Level 6 FTD has no motion system, but it does require all cockpit controls to be fully and realistically functional. According to a report by Dr. Tim Brady, dean of ERAU's College of Aviation, while a Frasca 172 Level 6 FTD costs around three times more than a Cessna 172 aircraft, that cost is more than offset by the savings in operating costs between the FTD and the actual airplane.

"But the utility of the simulators is four times that of the airplane," Brady wrote. "FTDs have much lower operating cost and are unaffected by dramatic rises in associated aircraft operating costs such as insurance."

Integrating FTDs at Monterey Bay Aviation involved researching studies done by ERAU on successes operators were having in integrating FTDs with the actual aircraft in Part 142 Training Center programs. The idea was to base their curriculum

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“Connect”



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on the Cessna Pilot Center Part 141 standards while using the Embry-Riddle data to examine means of transferring the simulator skill sets to the actual aircraft.

In their 2006 report published in the *International Journal of Applied Aviation Studies*, "Transfer of Training from Flight Training Devices to Flight for Ab-Initio Pilots," ERAU professors Nickolas D. Macchiarella, Pamela K. Arban, and Shawn M. Doherty wrote, "The transfer effective ratios indicated that 33 out of 34 tasks had positive transfer from FTD flight to aircraft flight. For 18 of these 34 tasks, the experimental group required significantly fewer iterations to achieve PTS standards in the airplane after they trained to standard in the FTD."

"You don't need to build the Taj Mahal, but you should make an effort to have a nice facility. This is the same level of service they are already getting when they take their Lexus to the dealer for service. We are only doing catch-up work; we are not doing innovation. We are just getting up to the norm of most industries." – John Lotz

This same approach is used by students in Part 141 programs as well as Part 61. Richard Skovgaard, director of the Flight Safety Academy in Vero Beach, Fla., said the academy uses Frasca Level D CRJ (Canadair Regional Jet) simulators for its Advanced Airline Training Program. Level D simulators reflect correct simulation of the aerodynamic and ground dynamic characteristics of the aircraft, accurately represent the cockpit, and systems and provide visual and motion systems.

This allows students who have conditional offers of employment from an airline to practice maneuvers using that airline's actual call-outs and procedures and to demonstrate those procedures to the airline's specifications.

"When they go onto that airline with 250-300 hours total they do extremely well," Skovgaard said. "In fact, during the final ride in the simulator in this advanced airline training program, the regional

airline is coming in to do the check ride to make sure the student is up to the level the airline is looking for."

By using simulators and FTDs, students learn difficult maneuvers and principles on the ground in the simulator at a much lower operating cost and then demonstrate them in the airplane.

"So where we had maneuvers with a high correlation, we said the student will be taught the skill in the FTD, they will be taught to Practical Test Standards (PTS), and the only time the student will do it in the airplane is just to demonstrate they can do it in the airplane," Lotz said. "And we expect them to be able to walk from the FTD to the airplane for that maneuver and be able to go out and fly it for the first time to PTS standards."

Extra time is spent on refining ground reference maneuvers, rudder aileron coordination, and spins and stalls sets. Monterey Bay Aviation students practice this in a Belanca Cetabria, which requires a greater skill set for recovery than the Cessna 172. Lotz said the simulator also gives instructors greater flexibility to create scenarios that would be too dangerous to perform in the aircraft, such as loss of instruments during a storm.

"You can throw scenarios in there you wouldn't want to be doing in the air," he said.

In addition to increased safety, the FTDs and simulators allow for greater time savings for the student. When a maneuver must be practiced or done

over, the reset is much quicker.

Lotz's theories are confirmed by research from ERAU and Middle Tennessee State University (MTSU) studies and by the FAA. Based on ERAU and MTSU research, the FAA is leaning toward more scenario-based training programs.

The FAA has even discussed the introduction of a combined private and IFR rating that integrates FTD and real-world training using a scenario-based curriculum.

Savings Help Boost Enrollment

More than just way to reinforce training, the FTDs and simulators can act as an incentive for students who may otherwise take a pass on enrolling in a flight school. Whether because of a time shortage or because of increasing fuel prices, many potential students are looking for ways to reduce the num-

bers of hours they spend in the cockpit. By reducing these factors, schools may see an increase in enrollment.

"I believe the simulator time is as much as a 50 percent per hour reduction in cost," Lotz said. "When a student has an area he needs to work on, say take-offs and landings, you just freeze frame, rewind, and he can do it over and over and over again. You don't have the ten-minutes flying to the practice area each way. I think for the student that literally adds up to better performance of skill sets and better understanding in half the time. The goal is to produce a better pilot in less time."

Lotz said that while the FAA credits only 2.5 hours of simulation time, a typical student at Monterey Bay Aviation will spend an additional 10 hours in a simulator learning and practicing skills.

Proponents of FTDs and simulators do warn that time in front of a screen should never completely replace time in the air. The key, they say, is to strike the right balance between simulation and real-world experience.

New Demand for Flight Training

Lotz feels that with upcoming modernization of the Air Traffic Control system and broader use of glass cockpits, the flight training industry is due for an upgrade. Additionally, the introduction of very light jets will make high-performance flight more popular at a time when many flight schools are closing their doors.

Despite the barrier to entry posed by the high cost of realistic simulators, Lotz feels that if a flight school runs its operation as a business, the initial investment will be well worth the cost.

Fewer flight schools will be graduating fewer students at a time when many commercial pilots will be retiring. This shortage of pilots will lead to higher wages, which will in turn attract new students looking at aviation as a career field. This, coupled with the expansion of regional airlines and greater accessibility of private aircraft, will create tremendous demand for those few remaining schools that have modernized to keep up with the times.

Skovgaard went even further, warning that a shortage of high-quality CFIs could have a potentially devastating impact on general aviation. He explained that many regional airlines are snapping up instructors with relatively few hours to work as pilots, and this is leaving a shortfall in qualified instructors. "You have to have more eggs to make more chickens," he said.

Assessing your market and determining if an FTD fits into your business model are long-term, considerable investments of time and money. But there are simple, low-cost steps flight schools can take to be more customer-centric. "I call it changing the customer service model," Lotz said.

Changing the Customer Service Model

Lotz feels that many flight schools still operate as they did 30, 40, or even 50 years ago. Phones are often not answered, and when they are the person answering them lacks basic knowledge about the training program. Facilities are in poor condition, restrooms are dirty, aircraft are not well maintained, and schools have a general shoddy appearance.

"I mean, how tough is it to clean a restroom?" Lotz wondered. "You don't need to build the Taj Mahal, but you should make an effort to have a nice facility. This is the same level of service they are already getting when they take their Lexus to the dealer for service. We are only doing catch-up work; we are not doing innovation. We are just getting up to the norm of most industries."

Lotz suggests training staff in customer service skills, building a website with basic information about your program, and participating in flight training cooperative programs such as Be A Pilot.

Lotz said that for some students the time-cost ratio will always be a factor that discourages them from pursuing a private pilot's license. However, there are large markets of young students who have not decided on a career field, retirees who would be interested in getting a recreational license, and thousands of affluent personal users who are still interested.

"The key is to know your market and innovate to meet that demand," he said. ■

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Eye On Tomorrow

Jet Solutions' Dennis Keith has built a career on 15-hour days and seeing around the next bend. Today, he operates 90 aircraft, with an eye on future growth. *Aviation Business Journal* interviewed Keith in his Dallas, Tex., office.

By David W. Almy

When did your aviation gene kick in?
For Dennis Keith, it happened when he was 17, in Phoenix, Ariz.
“I was going to a high school in Glendale, Ariz.,” he said, “and in came a speaker to my English class to talk about a vocational technical school. The guy said, ‘There’s a field trip tomorrow to Phoenix to visit the school. Anybody interested?’”

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“They hired me because I could fly and maintain the airplane, and I was cheap.”



“We had a twelve-page business plan, of which about two pages were interesting and the rest was a dream.”

Member Profile: Jet Solutions

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“Missing English was of interest to me, so I got on the bus and went to Phoenix to see the school. During the tour, we walked into this very large workshop and there were probably 50 or 60 radial engines lined up on maintenance rigs, and I thought, ‘Wow! What’s that stuff?!’ I’d never seen a radial engine before, except maybe in a picture.

“They said, ‘This is where we teach our FAA-approved aircraft mechanics course. You can go here and get your aircraft mechanic’s license,’ and I thought, ‘That’s cool. I’ll do that!’”

That settled it. Keith’s aviation gene had kicked in with a vengeance. Two weeks later, he transferred from Glendale to Phoenix Union High School, taking academic classes in the morning and aircraft mechanics courses in the afternoon.

“My grades went from straight C’s with an occasional B to straight A’s because I was super motivated and having a lot of fun. Within a few weeks I had a job at Sky Harbor Airport as a mechanic’s helper,” he said.

“But out on the ramp I noticed these guys walking out in suits and ties, getting into airplanes, and flying away, and I thought, ‘That looks like fun. Who are those guys?’ Well, they were corporate pilots flying business trips. That was cool,” he remembered.

The year was 1965. The Lear Jet was new, but turboprops were what most businesses were flying, along with some big twins, such as Twin Beeches. The business jet age had just begun.

“My life then pretty much went from there. I’d get up about 5:30 in the morning in Glendale, drive down to Sky Harbor, and take a flying lesson for about an hour from 6:15 to 7:15. Then I would go to school, do my academics in the morning and my aircraft courses in the afternoon. By 3:30 I was back at the airport working as a mechanic’s helper until about 6:00. Took about half an hour to grab a taco at Taco Bell, then back to the flight school until 10:00 at night,” he said.

“After I graduated from high school, I went to work as a mechanic, took my paycheck from work, signed it over to the flight school, and lived off \$20 per week.”

Aside from a blooming predisposition toward aviation, a “Type Triple-A” personality, according to his wife Mary, also emerged.

“Oh yeah, right away. I pretty much lived aviation from 6:00 in the morning until 10:00 at

night, seven days a week. I got my private, commercial, and multi-engine rating on that cycle. I also got my powerplant mechanic's license through the school, and then I did my airframe license through practical testing because the school didn't offer it.

"So with those ratings, I started looking for a job, and I found one at a small company in California flying an Aztec. I did that for one year," he said.

"It was an import company that was expanding into the Southwest, and they wanted an airplane to get around. I flew almost 600 hours as a pilot for that company. They hired me because I could fly and maintain the airplane, and I was cheap.

"From there, I ended up in Dallas, where I felt there were more flight opportunities than in Phoenix. In Dallas, I went out and beat the bushes for a new flying job. In the late 1960s, the airlines were in a downturn, and I can remember people telling me 'Ah, there's no flying jobs, there's just no flying jobs.' I'd say within ten days I had probably five or six opportunities. After that experience, I never again believed it when somebody said there's no opportunity. I'd just say, 'Well they don't know what they're talking about.' So I ended up getting hired as a co-pilot/mechanic on a Twin Beech by Frito-Lay in January of 1969," he said.

At the time, Frito-Lay's fleet consisted of the Twin Beech and a Jet Commander. Pepsi Cola and Frito-Lay had merged in 1965 to form PepsiCo, and Frito-Lay was growing rapidly. Keith, not entirely by chance, was in the right place at the right time, career-wise.

Houston, We Have a Problem

"Six months later I was in the left seat of a Twin Beech, and I'm 21. With 4 passengers aboard, I was flying from Dallas to Houston, and about 50 miles north of Houston the left engine begins to fail. I knew what was happening, and the only option was to shut it down, which I did, before it came apart. I first noticed that the left engine had an oil leak, I thought 'Dang, I'm going to have to fix this when we get on the ground. I kept watching it, and it was getting worse. The oil was really starting to pour out, and the engine was starting to rock. And I thought, 'This is not good,' and I start pulling the throttle back and shut it down. We were at 9,000 feet at the time, IFR and thunderstorms in the area. I called Houston, told them we had an engine failure, and needed a vector to the nearest suitable airport. They said that the then-new Houston Intercontinental was opening for the first time that

morning at 8:00 and it was 7:40, so they opened early for us.

"We got a vector for Houston Intercontinental. We couldn't maintain 9,000 feet on one engine so they said go down to 6,000 feet, which we couldn't hold, so they gave us 3,000, all the while with the right engine at full power.

"Finally, they said, 'Maintain any altitude you can,' and I could maintain 2,800, which made me think about all the times I'd taken off out of Lubbock where the elevation's about 3,000 feet," he recalled.

"Take me to the scene of the crash!" he smiled.

"Anyway, I guess one of my claims to fame is that I flew the first landing and the first emergency landing at Houston Intercontinental Airport, the morning it opened for business. The reporters were waiting for a Braniff flight. I was able to roll onto one of the taxiways. I couldn't taxi the tail wheel on one engine, so we were stuck there. Of course as it was the first day, everybody was scrambling. Fi-

"I knew what was happening, and the only option was to shut it down, which I did, before it came apart."

nally a guy comes out with a jeep and a rope, we tie the rope around both main gears, we loop it around the ball of the tow bar of the jeep, and he starts slowly pulling us. And I am pumping the brakes to try to control it as he pulls us to a ramp.

"The passengers weren't upset at all. They just said, 'Thanks guys. We'll see you later' and went to their meeting."

"So I found a phone, called Dallas, and said, 'We've got a problem. We need a new engine on the left side. This thing isn't going anywhere.'

"Well, the chief pilot said, 'Get some boxes, take everything that's of any value off the airplane, and leave it.' We sold it as is, where is," he said.

"The next week, I'm flying the Jet Commander, which I did for about another year, and then we sold it to James Brown. That was interesting. We bought a Falcon 20. At that time, I had just turned 23 and got my ATP and type rating on the same ride. I spent most days flying the airplane and about as many nights maintaining it," he said.

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Always on the Move

Over the next 26 years of rapid growth at Frito Lay, Keith became chief pilot and director of aviation and even had time to start two companies, Keith Products and Heads-Up Technologies. He was recruited to start FlexJet, Bombardier's fractional division, in 1995.

"There were three of us who started the company together," Keith said. "We had a twelve-page business plan, of which about two pages were interesting and the rest was a dream. And we went from that to a billion-dollar business in four years with a thousand employees. I was the vice president of marketing and sales for the first 18 months, then I was the president up until 2001. In 2001, my goals met, I was exhausted and ready to go do something else, and along came my opportunity with Jet Solutions."

"Over the next five to ten years, we're going to see consolidation buyouts in the charter market. I also think you're also going to see some charter providers merging together."

Along the way, Keith's interest in modernizing FAA regulations was piqued.

"Flexjet was operating its aircraft initially under Part 135 because it was unclear back in 1995 whether we were going to be operating privately or commercially. So we started out operating under Part 135, but we learned pretty quickly that a 135 business infrastructure designed for typical charter activity did not lend itself to operating a high utilization fractional ownership business.

"The two operational concepts were in conflict with each other. The way you would run one airplane on a charter every couple a days, or twice a week—the infrastructure necessary to do that and the infrastructure necessary to run an airplane 1,100 or 1,200 hours a year, flying 3 or 4 flights a day, with hundreds and hundreds of pilots moving back and forth off of dozens of aircraft, are just not the same. They're fundamentally different. We immediately started to have difficulties providing

the levels of customer service that we needed to provide for fractional ownership to be successful. Without the correct infrastructure in place we had to fix things with expensive Band-Aids.

"The new Part 91K rulemaking process (of which Keith was a participant) began to address that reality, and we began to adapt. In most cases everything that we were doing was as high or higher from a safety standard as Part 135 in those days, but our processes certainly evolved with time."

Jet Solutions, Keith's current company, was flying charter before the fractional juggernaut kicked into high gear, providing lift to Flexjet.

"At Flexjet we were trying to pound a round peg into a square hole, and it wasn't working, so we pulled it out and redesigned our processes for fractional ownership under 91K.

"At Jet Solutions, we downsized the business to a manageable number of airplanes while redesigning so that the systems and processes were exactly the same as Flexjet's, and in that process we went through an ISO 9001 certification for both Jet Solutions and Flexjet. We integrated the systems so that if 91K had a higher standard then that became our standard, and if 135 had a higher standard than that became our standard. We ended up with a higher hybrid standard, common to the two rules.

"From a crew and operations personnel standpoint, they didn't have to keep thinking, 'Well, who am I today?' It was one standard, the same way all the time."

Today, Keith's Jet Solutions operates about 90 aircraft, the Flexjet fleet.

"Flexjet is licensed under its management specs to operate 91K, so anybody who comes in and buys a fractional share and wants to have the airplane operated for their personal use (where no re-billing activity is taking place) Flexjet operates those flights, sharing operational control with the owner," Keith said.

"Jet Solutions does the maintenance on all the Flexjet airplanes because they are all part 135," he said.

"Flexjet does the release for 91K flights, Jet Solutions for the 135 flights. The fractional world started to morph as soon as 91K came into play. A fractional owner now has to elect to either share operational control with the manager or turn over operational control to an air carrier. And more and more attorneys are advising their clients to turn operational control over to an air carrier.

"There are some downsides to that. The financial depreciation on your investment in the airplane

changes, and it costs you some money. If you do a lot of international flying, sometimes it's slower to get permits if you're commercial, where procuring permits for private operations are easier," he said.

The introduction of the "fractional card programs" (essentially block charter purchases) further enhances the market, but then need to be operated entirely under Part 135.

"Jet Solutions has a card program, named Flexjet 25," Keith said. "I've sold a lot of cards so far. We just started about twelve months ago so we're off to a good start."

Between fractional, charter, and card program flying, the Bombardier-exclusive Flexjet/Jet Solutions fleet, joined at the hip, aims to fly each aircraft about 1,000 hours a year.

"Both Flexjet and Jet Solutions are regulated entities that have been able to maximize the way we work together. Jet Solutions operates all the 135 commercial flights and does all the maintenance. Flexjet operates the 91K flights. Most fractional companies dispatch between 30 and 50 percent of their flights under Part 135 because they don't fit under the legal safe harbor conditions required under Part 91K," he said.

The 2005 accident at Teterboro airport, which triggered an invasive nationwide FAA review of operational control among 135 certificate holders, hasn't changed Keith's operations a lot, he said.

"We've been very involved with the FAA to make sure that we can comply with their guidance on operational control issues. But for top level operators, A0008 (an FAA operational control guidance) codifies what they've been doing anyway, and it sort of levels the playing field a little bit. Most of the top-level operators in the country had made all of the infrastructure investments to be in compliance all the time. Requiring all to do so makes the market fair from a competitive standpoint. And the National Transportation Safety Board has clearly made a case that the relationship between a management company and an air carrier is important in being able to deliver a safe product," he said.

Operators not able to come into compliance with operational control requirements will "go away," which is fine with Keith.

Consolidation on the Horizon

A shrinking Part 135 air carrier community also may come as the result of consolidation, in Keith's view.

"This business is ripe for consolidation because there are benefits of scale, to operating large fleets

efficiently. Over the next five to ten years, we're going to see consolidation buyouts in the charter market. I think you're also going to see some charter providers merging together. I don't know if you'll see other fractional providers merging together because we are at four large operations, and they'll probably just continue to grow.


"But on the charter side, the world will change a little bit. You're seeing it already, but at a different speed than FBO mergers because the merger of 135 operators is not as easy as buying an FBO and putting a new sign up. It's a much more complicated operation.

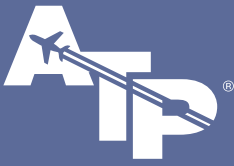
"The guys in the top tier in this market are going to get benefits of scale because they've made the infrastructure investments. The guys in the middle are the ones that are going to be in play because they are either going to make the investments and get big enough on their own to make it work or

"Charter and fractional products are going to blend together in a way that offers a variety of products to any customer, all offered by the same company."

they're going to be the ones that are going to have to start consolidating in a way that makes sense. The little local guy, with two or three airplanes, will still be around. I think the ones that are at risk are the medium-sized ones in the big city, with five to ten airplanes but competing with people who have 90 airplanes. The mid-size guys are competing with bigger guys who have cost-effective infrastructures, so they're going to have a tougher time."

As a result, five years from now, they'll be fewer 135 operators, but "they'll be bigger ones," Keith said. "I think the marketplace will be bigger, and there will be more 135 airplanes out there working. Charter and fractional products are going to blend together in a way that offers a variety of products to any customer, all offered by the same company.

"You'll see one-stop shops offering charter, jet cards, fractional shares, management, and full ownership. You pick the provider you want. Over time, you'll probably buy lots of different products from them as your needs change," he concluded. 



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Computer-Based Maintenance Tracking Takes Wing

By Paul Seidenman & David J. Spanovich

As business aircraft grow increasingly complex, the hangar door is closing on the era of paper-based maintenance tracking—if, indeed, it hasn't already shut. Just as commercial airline maintenance records long ago migrated to the computer, so too is the same information pertaining to business aircraft inspections and repairs.

"The major advantage of maintenance tracking software is that it can track the thousands of parts that make up an airplane," said Sean Lancaster, vice president of Bristol Associates, a Washington, D.C.,-based aircraft marketing firm. "This includes life limited parts, which require scheduled maintenance or disposal and must be tracked by date and/or utilization."

According to Lancaster, many of these software products provide sortable alert messages concerning when inspections are coming due. "This is vital to keep the aircraft airworthy, especially since the FAA has the authority to spot-check the maintenance records at any time," he said. "If the FAA finds that an inspection has been missed, they will likely assume other inspections have been overlooked, and then things spiral."

But this isn't just an FAA issue, said Lancaster, who pointed out that airplanes with an "electronic maintenance record trail" tend to have a higher resale value. "Without it, the asking price will be negatively impacted because the prospective buyer would have to cull through page after page of

paper-based records, which would then have to be manually entered into a computerized data base."

Factoring in hourly labor costs, this could range between \$20,000 and \$25,000, which could be deducted from the asking price of the plane, according to Lancaster. "That's why, for at least the past five years, we haven't seen a business aircraft that hasn't been on some kind of computer-based maintenance tracking program."

Technology Looking Glass

Dennis Steinbeck, vice president of Avtrak LLC, a maintenance software developer in Littleton, Colo., said that the ability to predict when maintenance will come due is a major selling point. He said that developers are striving to provide "a technology looking glass" to analyze the operational trends of individual components.

"They would predict, in real time, when component failure could occur. In that way, you can be better prepared, and downtime could be reduced," said Steinbeck, who also considers hosting the software and storing the maintenance information on the software vendor's website to be critical. "The global Internet network provides an opportunity for everybody involved with the aircraft's maintenance to call up the site and check the maintenance status and records on a real-time basis."

He said that the Internet gives the added value of "bridging the communications gap" between the aircraft owner and the service center because representatives of both can see the maintenance

status of the airplane at the same time.

"When an aircraft enters a service center, it might be determined that the owner did not provide some of the information the service center people should have had at the time. With a web-based system, it's all right there for everyone to see."

"This effectively gives our customers another set of eyes," said Dan Fuoco, service sales department manager of Duncan Aviation in Lincoln, Nebr. "By comparing the records on the customer's system—if authorized to see it—with what is in the log books, we can make sure that something has not been overlooked or erroneously recorded."

Avtrak's Dennis Steinbeck reported that web-based maintenance tracking systems have the advantage of providing instant updates of such information as service bulletins or airworthiness directives. "To do that, the software vendor simply updates the program just one time, and the new information is displayed on the website, eliminating the need to distribute huge batches of newly updated CDs."

In fact, most major vendors of business aircraft maintenance tracking software offer Internet-accessible products, and those who use them range from large, multi-fleet operators to those with only a handful of aircraft.

AMI Jet Charter, which currently has 85 aircraft operating from 45 bases on its certificate, uses six different tracking programs, all

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Computer-Based Maintenance Tracking

Continued from page 45

web based. "They give our maintenance and quality assurance staff a real-time level of oversight that would be impossible using server based systems," said Roy Seward, the Burlingame, Calif.,-based company's manager of quality assurance.

Seward reported that AMI Jet Charter is going a step further by integrating the products from two software vendors, CAMP and Avtrak, with Flight Operating System, an online scheduling program produced by Computing Technologies for Aviation, Inc. This will allow integration of the maintenance data with flight scheduling, permitting the schedulers to cross reference the available aircraft with their maintenance status. "By looking at availability, down to the number of days or cycles the aircraft is away from a maintenance event, we can schedule it so there are no conflicts with servicing," he said.

Mercury Aviation, Inc., a Robinson Helicopter dealer in Flowood, Miss., and a charter operator of five helicopters, began using the web-based SkyBOOKS system just this year. According to David Holder, the company's maintenance director, the expansion from three to five aircraft prompted the decision to scrap manual tracking. "We began to look at automating maintenance tracking when we added a Bell Jet Ranger and a Bell Long Ranger to our fleet of three Robinson R44s because the Bell helicopters were more complex," he said. "We concluded that remaining with a paper-based maintenance tracking system would be too labor intensive."

Holder said a web-based system even has advantages for the pilots. "They can see the maintenance and inspection status of the aircraft and components from anywhere they happen to be, as

long as they have Internet access," he said. "As a maintenance director, I can access the records online and see what specific maintenance events are due at any time, without having to go into the office, simply by calling up the SkyBOOKS website. That's much quicker than doing the amount of research we would have to do using the old paper records."

Holder said SkyPLUS Technologies provides a staff of analysts who keep the aircraft maintenance requirements current. "As a small organization, I don't have a quality assurance department onsite, but the SkyPLUS team watches all of the maintenance requirements along with us," he said. "Also, because all of the information is on a website, I don't have to worry about making backups of the records."

Considering Privacy Concerns

Despite the advantages a web-based tracking service may provide, some operators prefer to keep all maintenance records on an in-house system. "If you want something that is strictly for internal use and access, we feel that most customers under those circumstances will prefer the privacy and security of an onsite system," said Bob Jones, senior technical training consultant for Aircraft Technical Publishers. The Burlingame, Calif.,-based company manufactures several internal server-hosted maintenance tracking products. "Web-based systems are a viable option, but only if the information needs to be reviewed or inspected by people outside of the operator's organization."

Beyond the decision to go with internal server or web-based maintenance tracking products, business aircraft operators also

may need to choose between "service-oriented" and "technology" products, explained Tom Grace, Cessna Aircraft Company's manager of service information in Wichita, Kans. Grace said the service-oriented product tends to be "tied back to the aircraft OEM" and then made specific to the aircraft.

"It is backed up by analysts who constantly update the site, taking into account the information needed to maintain the aircraft," Grace said. "That includes information about recent OEM changes to maintenance such as service bulletins and airworthiness directives."

Cessna makes a service-oriented maintenance product, under the CESCO name, for operators of its Citation jet family. According to Grace, about 90 percent of Citation owners now subscribe to the system. "If you look at the entire business aircraft fleet (for all OEMs), about two-thirds use some type of product-oriented software for maintenance planning," he said. "The rest use a technology-based or do-it-yourself type software product, in which case the operator is responsible for inputting the maintenance parameters and requirements for his specific aircraft. This type of system is strictly self-contained and not backed by analysts or an OEM."

Grace predicted that more operators will opt for OEM-specific service-oriented plans because they are configured to conform to a standardized maintenance plan, which is constantly updated and sent to the operators. "Also, people who operate business aircraft will have to start taking a hard look at fleet-wide implementations of MSG (Maintenance Service Group) type programs, which are

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The Plan That Keeps Paying Good Experience Returns

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Computer-Based Maintenance Tracking

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coming along and could impact the value of their aircraft. That's where OEM systems will have an advantage over the technology-type products."

But just as there are choices of plans and formats, it is also generally agreed that the maintenance tracking systems will further evolve based on user expectations, which are already being expressed.

"There are some operators who have requested a 'Swiss army knife' approach to computerized maintenance tracking," ATP's Bob Jones said. "They want a totally integrated tool that will not only track maintenance but include technician management, billing, and other back-office functions, including inventory control and shop workflow. In the past, it has been very hard to find a tool that does all of this well, but we realize that this is probably going to be the next generation of maintenance tracking software."

Bill Mayo, chief executive officer of Mayo Aviation, an aircraft management, charter, and repair station operator at Denver-Centennial Airport, agrees. "The capability to integrate across platforms, such as software designed to track scheduling and flight activity, is very important," he said. "At Mayo Aviation, we have a separate software product that tracks scheduling and flight activity. But there is also an interface that permits our Avtrak (maintenance tracking) software to work with this product in order to update the flight activity of all the aircraft we operate. It only takes one person to update this information."

At the same time, Mayo would like maintenance tracking systems to cut across more platforms and areas of data. "I'd like to see all of the information, coming from the maintenance activities at the hangar entered into a computer, and

automatically updated with a minimum number of touch points," he said. "It would be a matter of putting in the data, which would then be sent to where it needs to go, including the individual aircraft's log books, and the service center's other record-keeping departments, such as inventory control and parts shipping and receiving. The technology is getting to a point where we'll be able to have a more integrated, enterprise-wide product."

Based on his customers' reports, there are two main issues concerning the future of computerized aircraft maintenance tracking products, said Victor Josephson, director of technical solutions for CAMP Systems in Ronkonkoma, N.Y. CAMP is considered the oldest vendor of computer-based maintenance for business aircraft.

"Some, frankly, want less complicated and easier-to-use systems. Others would like to see the systems become more complex, expanding to include inventory management and flight scheduling integration," Josephson said. "But the big issue today is the amount of paperwork that still has to be filled out by hand and signed off on."

He reported that CAMP Systems sends out approximately 5,300 sets of paper reports each month to its subscribers. "You hear a lot of talk about going to the paperless hangar, but I don't know if we'll ever get to that point. It's still a paper-based culture."

Still, Bristol Associates' Sean Lancaster predicted that digitization will continue to expand as well as evolve. "Within the next five to ten years, maintenance departments will be able to scan the serial numbers on all the parts and components in the airplane using a hand-held device, which will then download the data into the maintenance computer," he

said. "This will eliminate any mistakes made by copying the information by hand, eliminate the time involved in looking up paper records, and automatically update the records on the part."

But Lancaster cautioned that the FAA still requires paper records to be made available for all tasks done on the aircraft, along with an authorized signature.

"Aircraft maintenance records are normally derived from four sources: the aircraft's own logbooks, the APU (if it has one), each engine's logbook, and work scope cards. Most of that is still on paper. For security purposes, we are seeing a trend toward putting all that in digital form, using scanners, and then storing that information off site."

What's Out There

While it is not intended to be a complete list of all maintenance tracking systems available for business aircraft, *Aviation Business Journal* has identified seven vendors that are considered the major players in this field. In addition to providing a general description of their products, we have included any new developments that the vendors have made public as of August 1.

Aircraft Technical Publishers

Maintenance Director Planner

Maintenance Director E-LOG

Maintenance Director Enterprise

ATP has three products designed for maintenance tracking within a local area network (LAN) or single PC, windows-based environment. Each product caters to any aircraft application, including business, commercial, and even military models.

Maintenance Director E-LOG, introduced in 1998, is a compre-

hensive system for recording and retrieving all prior maintenance information on the airframe, engines, and component inventory, including compliance and status, archived by category, such as service bulletins and airworthiness directives. Data storage capability also includes a complete component installation and removal history. The system is used to forecast future maintenance planning and component requirements and tracking life-limited parts and component overhauls, off and on-wing, with concurrent recording of cycles, landings, and calendar totals. Component reports for aircraft, engines, or inventory can be generated. Additional aircraft can be added to Maintenance Director E-LOG simply by cloning an existing aircraft profile.

Maintenance Director Planner is a scaled-down version of Maintenance Director E-LOG. Introduced in 2002, the system has all the capabilities of E-LOG except for provisions to maintain historical data. Specifically, it was developed for those customers more interested in having a forecasting tool. In that regard, it has been configured to show the last date a specific maintenance event was performed and when it's due next.

Both Maintenance Director Planner and Maintenance E-LOG have accounted for over 800 customers to date, of which about 60 percent use the E-LOG product. About 90 percent of the customers operate general aviation aircraft and include corporate and charter operators. The remaining 10 percent are military organizations and commercial airlines. Among the customers are FBOs, of which many offer maintenance tracking services to customers by utilizing ATP Maintenance Director.

Maintenance Director Enterprise, introduced in 2000, is an enhanced version of Maintenance

Director E-LOG and was designed for operators of large aircraft fleets, particularly those of at least 50 aircraft. Its major advantage is incorporating additional reporting capabilities, particularly with regard to data query options that group and sort aircraft by type or fleet. A few large FBOs, some airlines, and one military operator are among the customers for the product.

The software for all three products is distributed on a CD for a one-time purchase fee, which also includes one year of training and support. After the first year, customers can purchase an annual training and support contract. Maintenance Planner is the lowest cost at \$1,200 for use on a single, stand-alone PC. Additional packages are available for the LAN version of the software, which

includes a separate LAN-enabling CD, with cost predicated on the number of users. The base price for the high-end Maintenance Director Enterprise is \$4,500.

For an additional charge, priced as an annual subscription, ATP furnishes maintenance schedules for any specific aircraft type, listing all maintenance requirements for that aircraft. The schedule is normally updated monthly using a CD that is sent to the customers. This add-on relieves the user from the task of manually entering the maintenance requirements into the system. The ATP maintenance schedules can be modified by users to meet their tracking requirements. About half of ATP's subscribers to Maintenance Director Planner have selected this service.

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Avtrak GlobalNet

In 2001, the Littleton, Colo.,-based company introduced Avtrak GlobalNet, a web-based product that caters to maintenance management of corporate and on-demand charter business aircraft. According to Dennis Steinbeck, Avtrak's vice president, GlobalNet was the first Internet-based maintenance tracking system for business aircraft and is tied for first place with CAMP in terms of registered aircraft. Currently, there are more than 4,200 aircraft on GlobalNet, representing 140 different aircraft types and models. Of that group, about 95 percent are turbine driven.

GlobalNet's design philosophy is one technology, one common interface, which is compatible with any aircraft type and fleet size. It was also built for ease of use, even by those who are not aviation maintenance technicians.

Avtrak, which is available by annual subscription, offers a single source for the maintenance management of as little as one aircraft up through large fleets with mixed types. Subscriptions are not only made directly with customers, but indirectly through some aircraft OEMs that will offer the GlobalNet technology under their own privately branded system. OEM private brands account for some 25 percent of GlobalNet users to date.

All information pertaining to the maintenance status of customers' aircraft is managed by Avtrak and stored on a secure website accessible via password.

In early 2007, Avtrak added inventory control and work order tracking and management capabilities, along with a mobile portal interface, enabling user access from any mobile wireless device.

CAMP Systems

CAMP

For nearly four decades, Camp Systems, headquartered at New York's Islip-Long Island MacArthur Airport, has offered its computer-based maintenance, planning, scheduling, and tracking suite to business jet operators. The software debuted at the time the first Gulfstream II went into production, and this market segment was initially targeted. Since then, CAMP has been applied to all business aircraft types—from small twin turboprops to Boeing Business Jets, as well as standard commercial airframes configured as VIP or head-of-state transports. In the late 1990s, the software transitioned from mainframe systems to the Internet.

Subscription costs are predicated on aircraft type, which factor in size and system complexity. Currently, there are 5,300 aircraft on the CAMP subscription list, representing 130 different aircraft models.

Backing the website are 75 analysts, available for customer support and located at CAMP System's locations, including the Islip headquarters; Miami, Fla.; Wichita, Kans.; Merrimack, N.H.; and Paris, France. The analysts include groups who specialize in various aircraft models and whose knowledge base includes the aircraft systems, an understanding of each OEM's maintenance manual style, and how to work with it. The analysts are considered to be an extension of the customer's maintenance staff.

CAMP has been able to accommodate customer-scanned or faxed documents since 2005. Once transmitted to the CAMP system, those documents are added to the customers' aircraft maintenance records, stored on the CAMP website.

Cessna Aircraft Company

CESCOM

When Cessna delivered its first Citation business jet in 1972, it offered CESCOM as a standardized, computer-based method for owners to create a maintenance logbook. Today, more than 90 percent of the Citation fleet is maintained using CESCOM.

CESCOM's primary function is helping current Citation operators adhere to all maintenance scheduling requirements of the OEM-specific items on each aircraft. As an added benefit, it provides an apples-to-apples comparison for all subsequent owners of the aircraft, verifying the extent to which those aircraft have been maintained in accordance with the OEM's standards.

CESCOM, which is available by annual subscription per covered aircraft, is an Internet-based service using a secure website. The site is completely integrated with the Citation Service Center network, along with Cessna's publications, reliability engineering, and maintenance engineering departments.

CESCOM allows automatic entry of maintenance log data, eliminating the need for manual paperwork entries. In February, Cessna added the Fleet Dashboard Report, which provides a snapshot of every aircraft in the fleet, showing its current maintenance status. As a result, CESCOM subscribers can not only view the maintenance status of their aircraft but will see an itemized list of tasks due within the next 14 days.

Currently, Cessna is updating the system to comply with a policy to transition all Citations to an MSG-3 maintenance plan. This is projected to increase up time and lower maintenance costs, given CESCOM's fleet-wide trend

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Computer-Based Maintenance Tracking

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monitoring capability.

Cessna plans to announce the latest feature of CESCO at September's NBAA convention in Atlanta, Ga. This email alert service will automatically notify each CESCO subscriber when a maintenance task is due.

Gulfstream Aerospace Corporation

CMP.net

Introduced in 2004 by the Savannah, Ga.,-based manufacturer of high-end business jets, the Internet-based system is available to any Gulfstream operator by subscription. It is also fully accessible by any FBO or independent maintenance repair and overhaul facility, with prior customer authoriza-

tion, typically for a specific time period. Most users are Gulfstream operators' in-house maintenance departments.

CMP.net is the only OEM-approved maintenance tracking system for Gulfstream jets, and it provides real-time access and updates to the aircraft maintenance data. With a direct link to Gulfstream Publications, the OEM-generated task cards are used to perform maintenance on the aircraft and update the compliance database. Using a single software platform, CMP.net can track a single or mixed fleet of Gulfstream models.

Users can access maintenance data wherever an Internet connection is available, but only through the customer's myGulfstream.com account, where a single sign-on

authentication is performed. To date, some 98 percent of the Gulfstream jet fleet has been switched to CMP.net, as the operators' choice of maintenance tracking options.

Gulfstream continues to invest heavily in product enhancement and development based on customer input. Currently, updates for the CMP.net program are released monthly.

SeaGill Software Company

BART Maintenance

Marketed to all segments of the general and business aviation community, BART Maintenance is part of a suite of integrated software programs, configured for use on Windows 95/98/XP and 2000/

Computerized Maintenance Tracking Products at a Glance

(All data was supplied by software vendors.)

Software Product	Vendor/Mfg.	Platform/Capabilities	Terms & Average Price-Range	Customer / Sales Contact
Avtrak GlobalNet ----- For -- Part 91 Corporate flight departments ; Part 135 Charter Operators; Management Companies	Avtrak, LLC Denver Office (Hdq) 10822 W.Toller Dr Suite 250 Littleton, CO 80123 (303)745-5588 Wichita Office 2959 N Rock Rd Wichita, KS 67226 (316)630-0188 www.avtrak.com	Web Based System ----- OEM Approved/Accepted Analyst Supported Mixed Fleet Support – 140 different makes and models supported Easy to Use Task Cards	Annual subscription ----- Price varies with level of service and type of aircraft	Dennis Steinbeck Vice President 303-745-5588 X 203 dsteinbeck@avtrak.com
Avtrak GlobalParts – Inventory Control and Purchase Order System ----- For -- All Part 91 and Part 135 General Aviation aircraft operators and management companies that need to stock and manage parts inventory	Avtrak, LLC Denver Office (Hdq) 10822 W.Toller Dr Suite 250 Littleton, CO 80123 (303)745-5588 Wichita Office 2959 N Rock Rd Wichita, KS 67226 (316)630-0188 www.avtrak.com	Web Based System ----- Integrated Purchase Order and Receiving system Minimum Order levels Handles Multiple/vendor Part numbers Powerful search capabilities	Annual subscription -- per location; not per aircraft ----- \$3,000 per year, per location	Dennis Steinbeck Vice President 303-745-5588 X 203 dsteinbeck@avtrak.com

NT personal computers. SeaGil, based near Atlanta, Ga., has been producing aviation management software since 1985.

BART Maintenance is made available to purchasers on a CD. It can also be downloaded from SeaGil's website, although the system itself is designed to work on an internal server network. The cost is predicated on a one-time charge for the software, plus

a nominal annual fee that covers software updates and customer support—via phone or e-mail—as well as training using a SeaGil web-based tutorial. The site is accessible via a user name and password.

Among BART Maintenance's key features are components, inspections, and technical bulletins tracking; due dates tracking by date and/or time and cycle; and

maintenance work order creation.

BART Maintenance was deliberately designed without global Internet access to answer security concerns of many customers, which include the maintenance and support staff of corporate flight departments and charter operators flying single and multiple aircraft fleets. Each customer

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Software Product	Vendor/Mfg.	Platform/Capabilities	Terms & Average Price-Range	Customer / Sales Contact
Avtrak GlobalWorks – Work Order tracking and management ----- For -- All Part 91 and Part 135 General Aviation aircraft operators and management companies that maintain their own aircraft.	Avtrak, LLC Denver Office (Hdq) 10822 W. Toller Dr Suite 250 Littleton, CO 80123 (303)745-5588 Wichita Office 2959 N Rock Rd Wichita, KS 67226 (316)630-0188 www.avtrak.com	Web Based System ----- Work Order tracking and management system that is fully integrated with Avtrak GlobalNet, Gulfstream CMP. net, Sikorsky Helotrac II, Sino-Swearingen MX. Full Parts and Labor accountability Task card/Work Packages Single point of entry updates work order system and tracking system Secure Web Based Access	Annual subscription -- per location; not per aircraft ----- \$3,000 per year, per location	Dennis Steinbeck Vice President 303-745-5588 X 203 dsteinbeck@avtrak.com
BART Maintenance ----- For -- Corporate and Charter Operators	SeaGil Software Company 6020 Parkway North Drive Building B, Suite 900 Cumming, GA 30040 USA www.seagil.com	PC Based ----- Track components, inspections and technical bulletins Due dates tracked by date and/or time/cycle tracking Create maintenance work orders	One-time up-front fee plus annual maintenance fee. ----- \$10,000	Janet Murphy Sales 800-481-2593 sales@seagil.com
CAMP ----- For -- Corporate Flight Departments, MRO facilities	CAMP Systems International Long Island MacArthur Airport 999 Macroni Ave Ronkonkoma, NY 11779 WWW.CAMPSYSTEMS.COM	Web Based System ----- 40 year Company History and Methodology Aircraft Maintenance Analyst Services 24 hour Turnaround Data Entry Service Supporting Documentation Archiving Supporting 130 aircraft models	Annual subscription ----- \$2,500 - \$12,500	Dan Carroll Sales Manager 800-558-6327 DCarroll@campsystems.com

Computer-Based Maintenance Tracking

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can to make the tracking process as simple or complex as needed because it is tailored to any user's maintenance shop best practices.

SkyPLUS Technologies

SkyBOOKS

SkyPLUS Technologies, headquartered in Jacksonville, Fla., offers SkyBOOKS, a fully integrated, web-based management suite of applications. Along with maintenance tracking, the core components include flight operations, electronic log books, pilot current-

cy, expense tracking, and weight and balance computing, as well as features for compliance with IRS and Sarbanes-Oxley regulations.

The largest segment of SkyBOOKS users, about 50 percent, fly light to medium jets, with corporate and charter operators in that group split evenly. Rotorcraft operators account for about 15 percent. Other customers include MRO facilities, aircraft management companies, and airplane brokers and resellers. Brokers and resellers can allow customer access to SkyBOOKS at no charge

for up to six months for purposes of viewing maintenance records, pictures, spec sheets, and due lists on an aircraft slated for resale.

Introduced in October 2006, SkyBOOKS is one of the newest products of its kind, with initial deliveries to customers in January. Offered on an annual subscription basis, three-year plans are also offered. In all cases, subscriptions are by individual aircraft tail number, and website access via password to any sub-

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Software Product	Vendor/Mfg.	Platform/Capabilities	Terms & Average Price-Range	Customer / Sales Contact
<p>CESCOM</p> <p>-----</p> <p>For -- All Citation Owners</p>	<p>Cessna Aircraft Company One Cessna Blvd. Wichita KS 67277</p> <p>CessnaSupport.com</p>	<p>Web Based System (Internet enabled system with an Internet Browser)</p> <p>-----</p> <p>OEM supported with complete integration into Cessna's Customer Service Network. Easy to use features and reports/Analyst supported from Cessna MSG integration Pedigree – the authoritative source for over 90% of the Citation fleet Price/Value leader</p>	<p>Annual subscription</p> <p>-----</p> <p>\$2000 per year, per aircraft</p>	<p>Clark Chambers</p> <p>316-517-8903</p>
<p>CMP.net</p> <p>-----</p> <p>For -- Corporate Flight Department, private owners, management companies, fractional operations</p>	<p>Gulfstream Aerospace Corporation PO Box 2206 Savannah GA 31402-2206</p> <p>www.myGulfstream.com</p>	<p>Web Based System</p> <p>-----</p> <p>Real Time data access via internet connection Real Time updates – no uploading or downloading of compliance data required</p> <p>(The only OEM Approved maintenance tracking program for the Gulfstream Fleet directly linked to Gulfstream Publications to support OEM generated Task Cards. It has the ability to track mixed fleet of aircraft on a single software platform.)</p>	<p>Fully transferable annual (12 month) subscription. To re-enroll aircraft that has been off the CMP program there is \$3,000.00 enrollment fee.</p> <p>-----</p> <p>\$3,500.00 to \$10,000.00 USD</p>	<p>Colette Chamser Manager Technical Information Business</p> <p>800-810-4853 X 1-7170</p> <p>Colette.Chamser@Gulfstream.com</p>

Software Product	Vendor/Mfg.	Platform/Capabilities	Terms & Average Price-Range	Customer / Sales Contact
<p>E-Log</p> <p>-----</p> <p>For -- All Part 91 and Part 135 General Aviation aircraft owners; Management Companies; Service Centers</p>	<p>Avtrak, LLC Denver Office (Hdq) 10822 W. Toller Dr Suite 250 Littleton, CO 80123 303-745-5588</p> <p>Wichita Office 2959 N Rock Rd Wichita, KS 67226 316-630-0188</p> <p>www.avtrak.com</p>	<p>Web Based System (CD Provided with logbook data)</p> <p>-----</p> <p>Digital Archive of your Maintenance Records/ Logbooks Web Access and CD Provided Searchable Data Protects value of aircraft in case records are damaged or lost Competitive Pricing</p>	<p>Initial one time fee. Annual renewal fee.</p> <p>-----</p> <p>\$1,000* per aircraft for initial year. Annual update \$250. * Image limits may apply. Contact Avtrak for details.</p>	<p>Dennis Steinbeck Vice President</p> <p>303-745-5588 X 203</p> <p>dsteinbeck@avtrak.com</p>
<p>Maintenance Director E-LOG</p> <p>-----</p> <p>For -- Corporate and Charter operators, Multi aircraft fleets like schools, clubs etc. Bought by FBO's for internal use and as a resale service to provide customer tracking.</p>	<p>Aircraft Technical Publishers 101 S Hill Dr Brisbane CA 94005</p> <p>www.ATP.com</p>	<p>Stand alone System for PC or Local Network</p> <p>-----</p> <p>Use for unlimited aircraft, unlimited models Use ATP created and/or user created maintenance requirement lists Track components across multiple aircraft and even off-wing Forecast by logbook, aircraft or the whole fleet for any time period Electronic logbook w/ history and printable logbook entry pages</p>	<p>One time flat fee for software w/ 1 yr training/support. Annual maintenance & training option after year 1 @ \$700. Updates to ATP Maintenance Schedules by subscription.</p> <p>-----</p> <p>\$3500 for stand alone PC. Network options and full electronic logbook options at additional cost.</p>	<p>Joe Miraglia National Sales Mgr.</p> <p>800-227-4610</p> <p>sales@atp.com</p>
<p>Maintenance Director Enterprise</p> <p>-----</p> <p>For -- (Large FBOs, Military, Airlines)</p>	<p>Aircraft Technical Publishers 101 S Hill Dr Brisbane CA 94005</p> <p>www.ATP.com</p>	<p>Stand alone System for PC or Local Network</p> <p>-----</p> <p>Use for unlimited aircraft, unlimited models Use ATP created and/or user created maintenance requirement lists Track components across multiple aircraft and even off-wing Forecast by logbook, aircraft or the whole fleet for any time period Electronic logbook w/ history and printable logbook entry pages Expanded sorting and report options to support large fleets</p>	<p>One time flat fee for software w/ 1 yr training/support. Annual maintenance & training option after year 1 @ \$900. Updates to ATP Maintenance Schedules by subscription.</p> <p>-----</p> <p>\$4500 for stand alone PC. Network options and full electronic logbook options at additional cost.</p>	<p>Joe Miraglia National Sales Mgr.</p> <p>800-227-4610</p> <p>sales@atp.com</p>

Computer-Based Maintenance Tracking

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scriber's authorized employee or representative.

All subscribers benefit from a team of analysts at the company's Jacksonville headquarters. The analysts review all updates for each registered aircraft, and the program provides a prioritized, color-coded alert pertaining to each upcoming maintenance event. This gives pilots and flight department directors timely information as to when a system inspection or corrective action must be planned. The color-coded alerts range from green for no immediate action required to orange,

which indicates that planning should begin, to red, which means corrective action is urgent. The alerts are automatically displayed upon system log-on.

Two MRO variations of SkyBOOKS are available for the service center market: SkyBOOKS Lite Plus and SkyBOOKS Lite. SkyBOOKS Lite Plus provides a complete online analyst-supported maintenance history of the aircraft and is considered especially valuable for an MRO facility that has an ongoing servicing and repair relationship with an aircraft management firm or corporate

flight department. SkyBOOKS Lite is for the MRO facility that does not need to keep a complete document maintenance history of the aircraft beyond the last action performed and is not analyst managed. However, it does provide an interactive program and future due list capability.

SkyBOOKS newest feature, an online dispatch tool, is slated for roll-out this year. The online tool will provide prioritized minimum equipment list (MEL) operations and maintenance tracking and will be configured for each operator's MEL.

Software Product	Vendor/Mfg.	Platform/Capabilities	Terms & Average Price-Range	Customer / Sales Contact
<p>Maintenance Director Planner</p> <p>-----</p> <p>For -- (Corporate Flight Departments, private owners, or specific aircraft type) Corporate and Charter operators, Multi aircraft fleets like schools, clubs etc. Bought by FBO's for internal use and as a resale service to provide customer tracking.</p>	<p>Aircraft Technical Publishers 101 S Hill Dr Brisbane CA 94005</p> <p>www.ATP.com</p>	<p>Stand alone System for PC or Local Network</p> <p>-----</p> <p>Use for unlimited aircraft, unlimited models Use ATP created and/or user created maintenance requirement lists Track components across multiple aircraft and even off-wing Forecast by logbook, aircraft or the whole fleet for any time period</p>	<p>One time flat fee for software w/ 1 yr training/support. Annual maintenance & training option after year 1 @ \$500. Updates to ATP Maintenance Schedules by subscription.</p> <p>-----</p> <p>\$1200 for stand alone PC. Network option additional cost</p>	<p>Joe Miraglia National Sales Mgr.</p> <p>800-227-4610</p> <p>sales@atp.com</p>
<p>SkyBOOKS</p> <p>(Offered in three versions: -- SkyBOOKS, SkyBOOKS MRO, SkyBOOKS MRO Lite)</p> <p>-----</p> <p>For -- Corporate flight departments; flight management companies; FAR 135 operators; individual aircraft owners; maintenance providers; aircraft resellers.</p>	<p>SkyPlus Technologies 1310 Tradeport Drive Jacksonville FL 32218</p> <p>www.SkyBOOKS.com:</p>	<p>Web Based System (ASP) for any PC/Mac with internet access.</p> <p>-----</p> <p>Integrated flight operations, maintenance tracking, historical document management Accessible for management and shared visibility via the internet Total document and asset protection via archiving all original signed documents All documents, data, wiring diagrams and manuals available on the web -- 24/7</p>	<p>Subscription, one time flat fee etc. Annual and three year subscription options available.</p> <p>-----</p> <p>Price ranges from a low of \$500 to \$7,000 for a heavy jet</p>	<p>David Cox Production Manager</p> <p>904-741-8700</p> <p>Dcox@skyplustech..com</p>



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The Case for Burke Lakefront Airport



By Thomas P. Slavin, President, Million Air—Cleveland

Cleveland, to many, represents the “bull’s-eye of travail” that constitutes our country’s manufacturing sector. Residents, local communities, the media, and numerous activist groups have, for some reason, identified GA airports as a target of their displeasure. This relationship could be best characterized as tenuous. What happens at and to Burke Lakefront Airport could portend the future for many GA airports around the country.

In this heavily populated and still corporation-rich area, the four GA airports and Burke Lakefront, in particular, have come under increasing pressure to either modify their aviation use practices or simply close. All are increasingly challenged by politicians and/or citizens groups. The area’s daily and

weekly newspapers have made the “happenings” at GA airports front-page news. Talk show shock-jocks rant misinformation about the airports and encourage listeners to tell their public officials that these airports should be closed. Finally, university academics, wearing a mantle of “green,” uniformly opine against general aviation. GA airports have become, like it or not, newsworthy pariahs.

Ohio’s auto license plate states: “Birthplace of Aviation.” Nevertheless, there’s likely no place in the country less supportive of GA than Northeast

This article is based on a speech delivered to the Cleveland City Club on June 2. The opinions expressed are the author’s alone and do not necessarily reflect the policies or positions of NATA.

(NE) Ohio. Aviation legends and the businesses they started have all moved elsewhere: Glenn Martin, founder of Martin Marietta; Donald Douglas, founder of McDonnell Douglas; Larry Bell, founder of Bell Helicopter; Dutch Kindelberger, founder of Rockwell International; and finally Russ Meyer, ex-CEO of Bede/American Aviation, who when Bede merged with Cessna, became the latter's CEO. No sign of any of these aviation legends remains in the area. Local political and business leaders, when these companies were fledglings, found little reason to nurture their retention or growth in NE Ohio. The region is poorer because of their departure.

An Anti-Business Climate

Since the 1920s labor union leaders have been particularly successful in organizing employees. The result of their effort: high-cost union labor, which while generally skilled and qualified has proven too expensive to induce GA businesses to locate in NE Ohio. Organized labor, among its accomplishments, managed to infuse a strong populist sentiment within its membership. When extrapolated to include families and friends, populism became the controlling political dynamic. What resulted was ultimately a succession of pro-labor and anti-business elected officials.

Today's populist adherents, when discussing GA, trivialize corporate and recreational flying as "rich people's tools" and view our industry as not being socially responsible. Because many, if not most, of the area's politicians have never flown on scheduled service, yet alone in a GA aircraft, it's small wonder that this view persists. As one might expect, the area's congressmen and women, when interviewed, are for the most part very uninformed about GA and show little inclination to spend time focusing on what they think of as a minor issue. Aviation, to most area politicians, is thought of in two ways: scheduled service and/or a place to procure patronage positions for their political supporters.

There are several critical reasons why closing Burke is a very bad idea:

1. Burke is a "Part 139 reliever" airport. It is part of the nation's aviation system, and it is the only Part 139-compliant supplemental runway for Cleveland Hopkins. The air space in and around Cleveland is simply not safe absent the existence of Burke.
2. Currently, the 530 men and women who work at Burke collectively earn more than \$17 mil-

lion a year. These people provide support for Burke-based aircraft and provide ground service to more than 55,000 transient and 25,000 flight school operations annually.

3. While Burke is owned by the city of Cleveland, the airport is operated pursuant to FAA guidelines, and the FAA's Trust Fund provides the money for most airport improvements. A condition of the funding mandates that the airport must continue to be used as an airport for 20 years following the last trust fund advance. So even if Burke's current grant balance of \$4.1 million were repaid tomorrow, the airport still could not be closed until 2027.
4. Simply put, Burke is a landfill. Approximately half of what is now a 450-acre airport was built on fill that was unregulated when deposited. In the 1950s more than 1,000 city garbage trucks a day dumped refuse on what is now Burke.

Ohio's auto license plate states: "Birthplace of Aviation." Nevertheless, there's likely no place in the country less supportive of GA than Northeast Ohio. Aviation legends and the businesses they started have all moved elsewhere.

Chemical contamination, including "hop spots," is found on approximately half the airport. Given that the landfill ranges from 40 feet to more than 100 feet, the cost of remediation would be so great that the most ardent close-Burke supporter would gasp in disbelief.

5. Depending on where you are on the 450-acre airport, the water table ranges from 3- to 6-feet below the surface. This means the airport's waterlogged sub-soils have precious little load-bearing capacity. Absent a passive land use like aviation, development of Burke makes no economic sense.
6. The storm sewers at Burke are dysfunctional. These improvements cost taxpayers millions to develop and refine, and replacing them might cost more than \$100 million. How can a financially strapped city like Cleveland even consider destroying a \$100 million asset? Why destroy Burke, when nobody has, or ever will, come up with an economic reuse plan?

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Public Benefits from Burke

If Burke is improved instead of closed, what might the public expect? First, the impediments to good business practice must be rectified. In return, the public would see the creation of new good-paying jobs and users would use Burke more. Following are some examples:

- Convert Aviation High School into an aviation incubator and encourage fledgling aviation companies to get started here. Aviation High School should not be used to house the homeless.
- Affinity group air charter activity, including gambling and vacation junkets, should be relocated from Hopkins to Burke. This would generate income for Burke.
- Burke is located in a foreign trade zone. Handling airfreight, through a city-developed public

The city's two airports, together with several other airports in NE Ohio, must be weaned from their parochialism, cut loose from the politics that limit them, and made more effective tools for the area. Whether in planning or execution, if we operate our area's airports as part of a system rather than competitively, we'll all be better off.

airfreight terminal, could prove to be another wise step in generating multi-purpose uses for the Burke airport infrastructure.


- At Burke, patients, body organs, and medical professionals are transported daily. Why not propose to the Cleveland Clinic, University Hospitals, and Metro Health Center to build a common medical pick-up and drop-off facility at Burke? It's something no other airport has done. Patients would be in a controlled environment rather than in an ambulance or the lobby of an FBO.
- When one of the "grow Cleveland" entities tries to attract a corporate office to the city, the fact that the new-to-Cleveland company can base aircraft at Burke or simply use it for takeoffs and landings is a plus for picking Cleveland. Burke's tenants and those that promote Cleveland have to walk and talk with one another.

In 20 years I see Burke expanded and growing. I also see both Burke and Hopkins as part of a regional airport system. The city's two airports, together with several other airports in NE Ohio, must be weaned from their parochialism, cut loose from the politics that limit them, and made more effective tools for the area. Whether in planning or execution, if we operate our area's airports as part of a system rather than competitively, we'll all be better off.

The area's GA community, if it's to be successful, must explain its role and value to virtually everyone, and that requires important time and money commitments. Effective communication must include engaging the area's business community. Although the business community owns the bulk of the area's jet turbine fleet, their public relations guidelines make them very reticent to step up and back the GA community. They prefer to be anonymous aircraft owners. For the most part, front-and-center GA airport advocates are the people that own the small businesses that live symbiotically off of the GA airports, such as FBO operators, maintenance shops, flight schools, air charter operators, and flight and aircraft brokers.

Sending a Nationwide Alert

Given the example of what's happened over the last few years in Cleveland/NE Ohio, NATA and its membership may have to directly and forcefully address the challenges brought about by airport-closure advocates. It's imperative that NATA weave into the fabric of our association the dissemination of supportive materials, guides, media assistance, and staff that will help us fight the good fight.

Finally, if Cleveland/NE Ohio is in any way an example of how the public is becoming increasingly alienated from GA and our airports, it may very well be time to expand the scope of NATA's Airports Committee to include a standing subcommittee that addresses closure-related issues. 

Thomas Slavin is the president and owner of Million-Air—Cleveland located at Burke Lakefront Airport. Following a successful career in real estate and investment management, he has operated his FBO since 1993. An active member of NATA's Business Management Committee, Slavin was the recipient of NATA's Distinguished Service to Aviation Award in 2003 for his leadership in the areas of FBO safety and security.



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Founded in 1940, the National Air Transportation Association aggressively promotes aviation safety and the success of aviation service businesses through its advocacy efforts before government, the media and the public, and by providing valuable programs and forums to further its members' prosperity.



NATA Safety 1st Releases Safety Awareness DVD

NATA Safety 1st, in cooperation with the Federal Aviation Administration (FAA), completed the first in a series of safety awareness training DVDs focused on emerging trends in the aviation community. This first training DVD is *Safety Awareness—Ramp Communications Volume 1*.

NATA has developed many programs over the past six years to assist members with line training through NATA's Safety 1st Professional Line Service Training (PLST) and safety programs with NATA's Safety 1st Management System (SMS) for Ground Operations and Air Operators. The safety awareness training addresses emerging trends that are becoming more and more prevalent for both ground operations and air operators.

First and foremost, Safety 1st focuses on communication as the number-one challenge to any ramp or ground operations environment. While ramp communication between flight crews and ground personnel has always been a component of every ground operation, the methods have not always been consistent. Most of us learned to use hand signals from the *Aeronautical Information Manual*. You may remember the chart with the little fellow in various positions. Or maybe you recall the big hands that never quite resemble what a real line service specialist looks like from the cockpit. At any rate, we all learned the basics from many of these drawings, but the subtleties were missing. NATA's ramp communications DVD demonstrates more than 25 hand signals that pilots and line service specialists will use on the ramp to communicate with one another. The DVD training also includes a pocket-size poster depicting all hand signals with in-depth visual and text descriptions.


General aviation ramps are complex environments with a lot of activity and the promise of more to come with the advent of the very light jets. Flight crews handle very intricate aircraft, communicate with ground operations, address customer/passenger needs, and manage all of this while taxiing to the correct parking area without hitting anything en route. On the ground, the ramp team

has an equally complex task. They have a schedule to deal with and many aircraft coming and going. And everyone wants service at a particular time and sequence: fuel, catering, ground transportation, baggage handling, and parking for their aircraft.

The safety awareness DVD stresses the importance of flight crews and ground personnel understanding each other's duties and responsibilities. Knowing the demands on both the crews and ground personnel will foster better understanding and encourage everyone to work together to protect aircraft on the ramp. Understanding the complexities of each other's jobs will not only make the ramp a safer, more professional environment, but will also benefit passengers, who appreciate the professionalism they experience on the ramp.

NATA's safety awareness training promotes the concept of the professional ramp. The professional ramp is comprised of line service specialists who are trained to perform clear, concise hand signals with military precision that command respect on every ramp. It also depicts the right tools to professionally accomplish the job. Line service specialists wear appropriate personal protective equipment (PPE) and use ramp tools that include appropriate chocks, fluorescent cones, day or night wands, fluorescent vests, hearing protection, whistles, etc.

The aviation environment, particularly the ramp, is a constant flurry of activity every day, rain or shine. Your FBO's line service professionalism and precision is noticed by passengers and flight crews alike. This may be one more reason why aircraft and crews prefer to transit your ramp in lieu of the competition.

Look for our *Safety Awareness—Ramp Communications Volume 1* in the mail. It will be sent to all NATA members as well as NATA PLST and SMS participants in September. We encourage everyone to view the DVD, share it with those visiting your FBO, and incorporate the concepts into your training regimen. Ramp communications and safety awareness will enhance the safety, quality, and professionalism of your operation. 

Professional Line Service Training Update

The NATA Safety 1st team is busy updating and enhancing the Professional Line Service Training Program. After in-depth consultation with members and standing committees, NATA will roll out enhanced online training by the end of the year through its state-of-the-art learning management system developed especially for NATA by Avstar Media.

Member feedback helped guide NATA through the decision process of web-enabling the PLST. Members stressed the importance of NATA maintaining up-to-date training. NATA's online training is convenient and updates can be made one time and then released to members and participants immediately. Members also wanted to know the status of each line service specialist throughout the training process. The web training will provide electronic records that are automatically produced every time a student logs into the training site.

NATA's web training will provide all FBOs with consistent training. Each lesson will introduce concepts and topics, clarify lessons through fun, interactive activities, and reinforce learning through ongoing quizzes and exams. NATA has engaged the Safety & Security Committee, Business Management Committee, several line supervisors, and the assistance of R. Bisgard Aviation Consulting throughout the process to ensure the training passes the "reality check" requested by member companies. All have given valuable input and suggestions, making this online training one of the most unique and intriguing programs NATA will roll out to date.

NATA aims to provide participants with a final product before the year ends. In the meantime, we will share frequent updates with you as we progress through this exciting project. Email us at Safety1st@nata.aero with your thoughts and questions.

NATA Safety 1st Seminars Offer Abundant Opportunities

Maintaining a competent line service staff is one of the biggest challenges faced by FBOs today. Having highly trained line service technicians not only enhances safety, but also promotes long-term financial success. By identifying the knowledge and skills required by these professionals, the National Air Transportation Association has developed some of the best training seminars in the industry.

Make sure you take advantage of the many training opportunities. A quick guide to seminars offered through the end of this year includes:

- The Advanced Line Service Supervisor Training Seminar maximizes your company's efficiency, safety, and profit by providing your line service supervisors with advanced training in the latest and best practices.
- The Line Service Supervisor Training Seminar enables line service supervisors to better perform their jobs by arming them with the technical and managerial skills they need.
- The De/Anti-Icing Seminar ensures that all line technicians are thoroughly familiar with the proper de/anti-icing policies and procedures critical to safe flight.
- The NATA Safety 1st Trainer Seminar teaches trainers how to effectively implement our Professional Line Service Training program and provides proven training tips and techniques.

Sign up early and receive the early-bird discount online at www.nata.aero/events or email acoulby@nata.aero for a brochure today.

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As an aviation industry professional, we don't have to tell you how rough the skies have become. You probably know better than most. So let's skip directly to the part about how you might actively make the insurance part of your business a little more workable.

As an NATA member, you may be eligible to participate in one of the association's Workers Compensation Programs. One program is underwritten by USAIG, the other by Phoenix Aviation Managers, both are administered by AirSure Limited. Just as flying in a V formation means more efficiency for the flock, joining a group of other aviation businesses could mean better coverage for less money with your Workers Comp insurance.

Because, beyond competitive rates, you're also eligible to earn an annual reward when the group has a good year. Though not guaranteed, you'll like

the odds. In 28 of the past 30 years, the USAIG plan has paid nearly \$45 million in good experience returns, averaging 19.26%. The Phoenix Program, which started a few years ago, just earned its first good experience return in 2005. That's what we call making Workers Comp . . . workable.

To find out whether you are eligible to participate, just give your broker a call today, or contact the NATA program manager directly.



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