How operators prepare to meet the challenges of flying outside the U.S.

by Robert P. Mark

“Business aviation operators are becoming much more sophisticated about the ways they can use their airplanes outside the United States,” said Bill Stine, NBAA’s director of international operations and the man behind the curtain for the association’s annual International Operators Conference (IOC), held this year in San Diego. The event serves as a primer on international operations topics but is not intended to serve as a substitute for more concise international training.

Don Rust, an international captain at Qualcomm, sees the IOC as a place to hear about “all those things related to international flying I wish someone had told me before.”

The issues of safety and security, mainstays at the annual conference, become ever more important as more U.S. operators elect to go abroad. The increasing hassles of airline travel, combined with the regularly changing security concerns for executives who often sit in the front of an airliner, have continued to create opportunities for business aviation.

“We have never kept records of where our members go,” Stine said, “but anecdotally we know more and more of them are regularly operating internationally. There are also many more aircraft capable of 6,500-nm legs than before.” One pilot AIN spoke with at the conference flies a G550 and a Global Express for a Midwestern company that logs nearly 1,400 hours annually, more than 75 percent of which is international flying.

While there are few hard-and-fast numbers for how many business airplanes travel outside the U.S., some organizations, such as the UK’s National Air Traffic Services (NATS) and Eurocontrol, show total traffic rising each year well ahead of forecasts. The most recent data from NATS says business aviation flights have grown nearly 9 percent. NATS

The Art of Aviation Security

“We shouldn’t define security risks by country,” says Deborah Jacob, managing partner at San Mateo, Calif.-based BizJet Security. “A broad brushstroke simply will not work. Every country has some safe areas, as well as places that are not.

“Before a trip begins, a company really needs to have its ear to the ground outside the U.S. We often gather our intelligence from public sources initially. But in the oil and gas industry, for example, we speak to project security people who are right there in the middle of things to learn about local politics, the regional direction of labor and religious organizations. But a good security company can only assess the risk. They can’t tell you whether or not to make the trip.”

She reminds clients that when flying a U.S. aircraft into a foreign country, “The bad guys already know who you are when you arrive. Even though most operators take the flags off the tail of the aircraft, they retain the N numbers.”

Jacob believes that while large companies often have vast intelligence networks, “the answers [they get] are often 180 degrees out of sync with reality. Gathering good security information is not science; it’s an art. Actually, sometimes, it’s a best guess. We ask a lot of questions and also ask ‘what if’ constantly. It’s a healthy exercise. It’s what pilots do all the time. You gather as much intelligence as possible and then sift through it all to look for the sources that have a vested interest in one perspective or another. You try to err on the side of caution.”

Jacob acknowledges that 9/11 changed attitudes toward security. However, she maintains that the reevaluation had begun much earlier. “The real change began with the taking of hostages by the Iranians in 1979. Before that, U.S. citizens often thought they were wrapped in the American flag anywhere they went. [With the hostage crisis] it was clear that we couldn’t simply call the State Department for help. When you feel overwhelmed by a situation, there’s a message there. That’s when you still have the power to mitigate a significant portion of the risk.”

—R.P.M.
figures in January show transatlantic arrivals and departures up by nearly 8 percent over the same period in 2006, with overflights soaring 18.2 percent during the same time frame. NATS operational safety expert Steve McKie said, “Business aviation is our real growth area. It comprises 22 percent of the traffic at Farnborough and 12.6 percent at London City Airport. I don’t think we fully understand the impact it can and will have just yet.”

At Maastricht Upper Area Control in the Netherlands (part of Eurocontrol), traffic in the Benelux countries and northwest Germany rose almost 6 percent last year compared with the previous year. Eurocontrol also reports daily traffic up just over 20 percent since 2002 and running well ahead of forecasts for this year. But with the increases in traffic in Europe come delays. Eurocontrol says average airport delays have climbed 5.9 percent over last year, European airports are making plans to address the increased traffic. London Luton, for example, introduced slot requirements in March.

Adalberto Febeliano, executive director of ABAG, Brazil’s general aviation association, said, “Business aviation is growing in Brazil and in Argentina. All major manufacturers reported strong sales last year, and they could be even better if delivery times weren’t so long. International traffic from the U.S. is strong, as usual.

“The strike by air traffic controllers in Brazil, and the transition from the military to a civilian structure in Argentina, are making it a little difficult for aircraft operators to fly freely. Until the government and the air traffic controllers can reach an agreement on new wages and work conditions, delays are to be expected in all phases of flight.”

Air traffic in other regions of the world is up as well, except in Africa, according to Marc Baumgartner, president of the International Federation of Air Traffic Controllers’ Associations. “We see traffic rising about four percent globally and estimate that worldwide traffic will double by 2020, but much more in some areas. Asia, for example, is growing about 10 to 15 percent annually. Traffic in the Middle East is rising at 10 to 15 percent each year.”

Although Baumgartner sees traffic as steady in South America, he reminded pilots of the dangers of flying in Brazil, concerns brought home last year when an Embraer Legacy and a Gol Airlines Boeing 737 collided over the Amazon rainforest. “The ATC infrastructure in Brazil, such as radio and radar, is not adequate for the amount of traffic,” he said. He asserted that little has changed since the September 2006 collision.

Brazilian charter pilot Andre Ribeiro, a speaker at the conference, had a different view: “I feel safe when flying throughout Brazil. Because of the midair collision over the rainforest, the ATC system is ready to make the switch from military control to civilian.” Since the IOC, however, Brazilian President Luiz Inacio Lula da Silva has decided the switch to civilian control will require more planning than originally thought and is currently on hold.

The European Community continues to march ahead of the U.S. technologically in the search for ATC solutions. But operating costs there are also on the rise and, according to Stine, are hindering the growth of business aviation in the region. The rule requiring enhanced mode-S for all airspace in which they’ll be flying to ensure safe operations.

The problem with flying outside the U.S., especially to remote destinations, is that no matter how much a pilot prepares, surprises happen, and they are not always the pleasant kind. David Zara, vice president of international charter/management operator Tradewind Aviation, based in Oxford, Conn., has flown all over the world in the company’s GIV.

On a recent trip, despite assurances from his handler that credit cards would be accepted, an airport fueler in Brazil asked to be paid in cash. “Who carries $15,000 around with them?” Zara asked. The fueler finally accepted the credit card after hours of arguing.

Honeywell announced at the IOC this year that it plans to have a working ADS-C upgrade for the G450 and G550 by the third quarter and estimates a working CPDLC by the end of next year. Similar equipment should be out for the Global by the middle of next year and for Dassault airplanes by early the following year.

Emergency Planning

A written emergency response plan (ERP) is essential for travel outside the U.S. The plan is helpful in situations other than aircraft accidents. Coca-Cola Capt. Keith Tatum explained that an ERP is necessary when a pilot or passenger is detained in a foreign country, someone falls ill or passions are lost. And what if the crew loses contact with a passenger?

Tatum said finding solid medical treatment for anyone sick or injured overseas is always important, but “someone needs to decide how the incident will affect the rest of the trip as well. How will you replace a passport if it were stolen?” Experts suggest making copies of all important documents such as the first few pages of a passport, shot records and pilot certificates. In the event a passport is lost, being able to show the American Embassy or consulate a copy of the original will speed the replacement process. If those copies are carried on a memory stick, remember to encrypt the data and make sure someone else in the group knows how to retrieve it.

Jeff Jeffs of William FAM International Logistics said having an emergency readiness plan gives employees in a foreign country something to start with even if it must be changed along the way. “Changing plans is OK. That’s why they call it an emergency.” The U.S. Embassy support “might be slow,” he warned. “It is important to know when to get out of a country and to leave while you can, not when you have to.”

A good ERP answers these questions: who will initiate action? Who needs to know and in what order? What official help is needed and how do we find it? Who will be the contact at the company? Is third-party help available? The U.S. State Department’s Office of American Citizens Service and Crisis Management is a good resource for emergency planning.

Navigational Errors

Discussion about international flight operations always includes the subject of gross navigational errors (GNE) since business aviation continues to be involved in more of these mistakes than airliners flying the tracks across the North Atlantic. The good news for the future is that most business aircraft are capable of flying at altitudes above the tracks—higher than FL390—which allows them to fly more random routings and to and from Europe. However, that doesn’t eliminate the cockpit confusion that seems to be a major cause of GNEs in the first place.

A GNE is defined as an aircraft straying more than 25 miles

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Pilot Experiences

David Zara

Tradewind Aviation

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Time is a big issue when flying outside the U.S. While authorities in many countries insist on precise flight planning and most airports have tightly choreographed arrival and departure slots, ground service providers and bureaucratic officials seldom worry about delaying their customers in private jets. A handler in Guadeloupe told Zara that he needed to verify the Multi Service card being used to pay for fuel and services. An hour later there was no confirmation and no settlement.

Finally, Zara asked the handler if he could use another credit card. Two minutes later, the bill was settled using Zara’s Universal Weather & Aviation UVacard.

Local knowledge is critical in non-U.S. airspace because controllers expect pilots not only to understand their sometimes hard-to-understand aviation English but also the local geographic landmarks. Last year, Zara was flying over Syria en route to Qatar and the controller suddenly delivered an entirely new clearance not from the destination. Zara and his first officer had just a few minutes to absorb the new information and alter the flight plan while flying at Mach .80. Keeping charts handy and becoming familiar with the area helps with sudden flight plan changes. “You’d better know the area pretty well,” he said.

In the Caribbean, controllers often use local names for airports, Zara said, which generates even more cockpit confusion, unless you’ve been there before and recognize the airport.

U.S. pilots flying overseas must always use standard ICAO terminology because that’s what controllers learn if English is not their first language. Controllers, Zara warned, “don’t always think they need to use ICAO terminology.”

Weather information is not the same the world over.

“You have to learn how to do without weather briefings,” he said, especially in Africa. “You have to be self-sufficient.” Surprisingly, controllers in some areas of western Africa such as Ivory Coast and Senegal “are pretty darn superb,” he said.

Procedures are important, but they can take on a special life of their own outside the U.S. “Often,” said Zara, “even though you may see the field, they will not allow you to cancel IFR. You won’t be able to fly a visual approach but will be required to fly the full IFR approach.”

Flight plans are problematic; if you miss your slot, there is no simple process for amending a flight plan, and you’ll have to fill out an entirely new plan. Instead of frantically calling your flight plan provider back in the U.S., Zara advised, “Learn how to file an ICAO flight plan. Most American pilots couldn’t pick it out of a lineup.” There are also little tricks that pilots should learn, like the ability to file composite flight plans in some areas, which allow for a VFR departure and IFR after takeoff. “That really helps a great deal,” he said.

Finally, always bring plenty of general declaration

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forms. Some official will invariably say that you need more forms than you expected, "and now you're looking ridiculous in front of the passengers."

"It's all experience," Zara explained. When teaching Tradewind's 60 pilots, Zara creates scenarios to simulate actual trips. In one, Zara has the trainee flying toward a country's airspace boundary, and he tells the trainee that a controller requested that the pilot report the boundary crossing. "What do you do now? You'd better be pretty good at math," he said, otherwise you'll cross into their airspace, possibly without a clearance.

To handle that scenario, trainees have to learn how to deal with the controller first (simply say "stand by"), identify the boundary and how far they are from the edge, then quickly calculate how long it will take to get there at roughly three miles per minute. "It's not rocket science," he said, "just a lot of small things."

**Dan McDaniel**

GIV contract pilot Dan McDaniel specializes in pilot safety in remote regions. He told AIN, "I enjoy making difficult missions easy and transparent for the passengers."

The most challenging and risky areas of the world, he explained, are Afghanistan, Ethiopia and the CIS countries (Commonwealth of Independent States, which includes Russia and the former members of the Soviet Union).

The reason that risk is higher, McDaniel wrote, is that "the controller phraseology is difficult to interpret. One must listen for ATC instructions to other aircraft to maintain an orientation as to their proximity [to] your aircraft. One must rely on the pilots' intuitive experiences to maintain a safe mission in these difficult environments. In addition, outside forces want to disrupt your life.

The way to reduce the risk when flying to these areas, he added, is to "plan well, learn about the nuances of each country, review all material on ATC procedures--some are not written down--and never take for granted any event, situation [or] vendor-provided information. Always think out of the box as to what-if questions."

Preparing to fly in high-risk areas means continual training for less-experienced pilots by pilots and managers who have the requisite experience. For those flying to these countries for the first time, he wrote, "take along an experienced pilot."

**Harvey Meharry**

**Corporate Pilot**

The Middle East and South America are particularly risky, according to Harvey Meharry, primarily because of security issues. The best way to mitigate these security risks, he explained, is to use handling companies (he uses Air Routing International). "These companies hire local people," he wrote, who are "carefully screened, and [they] understand that your passengers, crew and aircraft must be safe. Have them provide passenger and crew transportation to and from the airport. Do not go to areas where the risk is great looking for a party. Travel in pairs. [Use] simple common sense, and stay in secure areas."

While Meharry believes that services have improved in some areas of the world, "ATC infrastructure has not moved forward as one might expect. IACO needs to be more forceful in [making] these areas come up to the standard that we enjoy here in the U.S., Canada and Western Europe."

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Environmental Concerns

Air craft emissions legislation is being introduced and is likely to emerge initially from the European Union, according to Don Spru- ton, director general of the International Business Aviation Council (IBAC) in Montreal. "Given that it will take a long time for the inter- national community to agree on standards, there is little question the European Union will proceed alone," he said. A proposal ad- dressing carbon emissions trading has also been introduced to the European Commission.

Spru-ton says the main concern for business aviation should be the low exclusion cutoff. "Only aircraft under 12,500 pounds will be able to avoid complying with European emission stan- dards. Although the mechanism to manage emissions has not yet been set up," Spru-ton believes "implementation could still occur as soon as 2011." For a full report, see page 44. --R.P.M.

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Flight Time/Duty Times Trends

AT&T's Gary Dietz conducted an IOC survey in 2006 and again this year to gather data on international crew duty limits, as well as how companies augment and reposition crews, including flight attendants. In both years, 95 percent of the operators who responded--135 last year and 107 this year--said their flight opera- tions manuals included international flight- and duty-time limits for cockpit crews. Approximately 68 percent of flight departments responding said they also had duty limits for augmented crews. Interestingly, only 60 percent of operators in both surveys said they also had duty- and flight-time limits for flight attendants.

The vast majority believed 16 hours on duty should be the limit for most crews, although most believed that when aug- mented crews were involved 18-plus hours was doable. When the topic was flight time, most initial crews out of base--about 85 percent--were limited to something under 16 hours of flight time. With augmented crews, nearly 30 percent of companies felt comfortable flying pilots more than 16 hours. A number of write-in comments from pilots claimed augmented crews was seldom a useful solution because few business airplanes are configured to offer comfortable rest areas. Most respondents who repositioned crews for long international trips stage them to arrive two days before the inbound flight. --R.P.M.
which he serves as national account manager. The system demands that commercial operators, including business airplanes carrying people for hire to and from the U.S., electronically transmit manifests of the crew and passengers to CBP, as well as additional personal information in advance of the arrival or departure of the aircraft. "This [APIS] is fixing to get big," said Universal Weather’s Laura Everington.

Other APIS-type manifest systems are expected to begin appearing in Europe soon. For example, an APIS-like service—CariCom—is currently up and running in the Caribbean. Although APIS currently applies only to commercial operators, it is not clear whether the DHS ramp up might soon include similar manifest demands for Part 91 aircraft.

Personal security takes many shapes. Longtime overseas expert and pilot Roger Rose from International Pilot Services has a witticism that explains the best defense possible when flying anywhere: "When you're in the jungle, don't look like lunch.

What would you do if your flight through the Middle East was offered a routing over Iran or Iraq, for example? Some pilots might choose Iraq because they know who runs the airspace, while others might take the shorter route through Iran. In light of the detainment of British soldiers for two weeks last month, consider the options if a flight was forced to divert while passing seven miles over the top of Tehran.

Offering a variety of practical thoughts on aviation security in the new age, Steve Kelner, chief of security for ASI Group, said that despite "travelers being smarter and better prepared for travel overseas today, terrorists are gaining higher casualty numbers with fewer overall incidents because they are using much less sophisticated weapons.

"The motivation is often simple. Kidnapping or killing Americans puts people on the front pages of the media." That means soft targets such as hotels and shopping centers are easy and much more vulnerable than ever.

Beyond Terrorism

Although terrorist incidents are on everyone's radar, Kelner thinks international crime poses a greater threat. "Americans are used to a certain due process of justice, and that doesn't necessarily exist in other parts of the world where democracy went away long ago."

Kelner emphasized how important it is for U.S. citizens traveling abroad to register with the regional security officers at the nearest U.S. Embassy after arrival so that someone else has an idea of who you are and where you are. While executives like a little time alone when they are out of the U.S., simply disappearing into the crowds for a few hours is unacceptable, Kelner said. A country can be stable one day and completely unstable the next as Americans in Lebanon learned last year. What is the plan to get out quickly if needed?

Other pragmatic security questions to consider include determining whether the country in question is friendly to American business in general. It is not enough to examine only the threat profile within a country; operators should also study how a country views a particular industry. Make sure you have written confirmation for all travel plans.

At this year's conference Qualcomm’s Rust provided a comprehensive look at a number of significant destinations, including China. That nation will host the 2008 summer Olympics, and those attending had better begin making plans now. Rust said the airlines are already making their known routes known. "While the Chinese are planning for the Olympic surge of people, they are not likely to be tolerant of poor planning techniques. More local handlers are becoming familiar with business aviation, but their expertise with English is poor in some of the outlying areas. But be patient," Rust said. "These people want to learn."

Crews can expect major airports such as Beijing, Shanghai, Guangzhou and Shenzhen to look and operate similarly to traditional Western tastes. "They're busy and controllers have a good command of English, although pilots should be alert for controllers speaking to locals in Mandarin," Rust said. Chinese ATC is run by the military; NBAA's Stine said the military there doesn't simply run the airspace; rather, it "owns the airspace and tells the civilian flying side what they will and will not do."

SDs are common and direct routings in China should not be expected, so those traveling to the country should take extra fuel for what might well be circuitous travel. "We were recently started down 500 miles from our destination," Rust added. "You must tell them if you ask for something that causes a problem. They do understand the term minimum fuel." He added that while the Letter of Introduction is no longer required, it can still be useful. Allow at least 15 working days to get the required paperwork in order before the trip begins.

In Africa, business flying is still difficult in many locations, especially considering the half-dozen or so regional conflicts occurring at any given time. Mark McIntyre, chief pilot for Mente, told pilots to expect poor to non-existent infrastructure, political instability and, with only a few exceptions, an overall unfamiliarity with business aviation. He added that distances between destinations can be great; for example, Marrakech to Cape Town is 4,000 nm.

In-flight broadcast procedures on 126.9 to cover for poor ATC operations were born in Africa. McIntyre suggests the following
broadcast format: “All stations, this is Falcon November 123 Golf Foxtrot at Flight Level 370, southbound London to Nairobi along Upper Amber 727. We estimate position KTM at 1045 and estimate GANGI at 1056. Falcon November 123 Golf Foxtrot at Flight Level 370 southbound London to Nairobi via Upper Amber 727.”

For travel in Africa, McIntyre’s company security people make a threat assessment of possible landing sites and rank them for each trip as 1 (OK to land), 2 (landing not recommended) and 3 (do not land). This preview of the available airports makes the decision-making process easier if things heat up during an emergency. On a recent flight from Lisbon to Cape Town, Mente security people rated Morocco and certain portions of Algeria as acceptable for landing, Libya and Nigeria as not recommended and Chad and the Central African Republic as essentially off limits.

McIntyre reminded pilots that navais in Africa are seldom up to Western standards. In fact, many have been ground checked only. Not all countries in Africa subscribe to WGS-84 standards, which means the navais on the ground might not all use the same reference points, a disturbing prospect during an IFR approach in rugged terrain.

Another suggestion is to apply for overflight permits well before departure time and carefully inspect the documents received. Plan to keep the permits handy in the cockpit during the flight in case an issue pops up. In the event of a weather or mechanical diversion, it might be a good idea to have permits for adjacent countries along the route.

The IOC also urged operators to reconsider plans to visit Italy in a business airplane. More so than many other countries in Europe, Italy gives considerable preference to the airlines over private flights. For private flights prior permission is required at most airports. Eight airports in the country have dedicated private aviation terminals, but parking is limited and often dictates that aircraft be repositioned to other airports. No Stage 2 aircraft are allowed, and pilots over the age of 60 can currently overfly the country but not land there.

Rose articulated some of the difficult issues he confronts with other international pilots he flies with or listens to on the radio. “First is complacency.” Rose said. “I see a wide variety of operators from IS-BAO-certified companies often hanging on by their navigational nails in flight. Among a disturbing percentage of U.S.-licensed airmen, there seems to be an attitude that modern FMSs and navigational displays obviate the need for fundamentals of navigation, such as plotting charts.

“Next is over confidence. I see a similar percentage of folks who seem to operate with cognizance only of FAA and TERPS. FAR 91.703 tells U.S. licensed airmen to comply with ICAO and other foreign regulations. How many pilots do you know who read the “State Pages” of their Jeppesen coverage (ATC and emergency) despite the fact that they might never have operated to or over that country or in that airspace for some time?

“Finally, poor communications. Our FCC has no PTS [practical test standard] for licensure apart from being able to produce $75 in one of three forms: cash, check or credit card. According to FAR 91.703 we must comply, but there is no guidance beyond those brief paragraphs, so it falls to the airman to educate himself and be able to function without overloading a controller whose mother tongue is likely not English. I cringe when listening to a U.S. pilot stumble through a non-radar position report or (more critically) responding to a ‘line up and wait’ with ‘Rog, position and hold.’”