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Missionary Aviation

Helping Others through Faith and Flight

Aircraft Lighting Lowdown

Don't Be Left in the Dark

Cessna 206 Makeover

Making a Great Airplane Better

CESSNA OWNER

VOL. 38 • ISSUE 5

Features

- 14 **Flying on Faith
The Challenges of
Missionary Aviation**
By Donna Jones
- 32 **Making the Best Better
Solo's Cessna Turboprops**
- 38 **Let There Be Light
Proper Aircraft Lighting
to See and Be Seen**
By Floyd Allen
- 44 **Making a Better-than-New
Cessna 206**
By Roger Battistoni

Opinions & Advice

- 6 **Editor's Letter**
Special Service
By Keith Mathiowetz

Departments

- 8 **On Approach**
Aviation News, Products & Updates
- 52 Flight Market
- 54 Ad Index



14

On the Front Cover

A Cessna 206, photographed by Jason B. LaBombard, N49th.net, takes to the air on a missionary flight near Cashibo-Cocha, Peru, over Lago Cashibo. Jason and his family are serving with the missions agency Pioneers as media professionals tasked with sharing stories of what God is doing in Southeast Asia, giving a voice to the voiceless and advocating for unreached peoples.



44



32

Disclaimer: The views of the contributors are those of the authors and not necessarily the position of the Cessna Owner Organization.

The Official Publication of the
Cessna Owner Organization
Vol. 38 • No. 5

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www.cessnaowner.org

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CESSNA OWNER magazine (ISSN 0745-3323) is the official publication of the Cessna Owner Organization. CESSNA OWNER magazine is published monthly by the Aircraft Owners Group, P.O. Box 5000, 147578 Aanstad Rd., Iola, WI 54945. Periodicals postage paid at Iola, WI 54945 and at additional mailing offices. POSTMASTER: Send address changes to CESSNA OWNER magazine, P.O. Box 5000, Iola, WI 54945.



Special Service

Sometimes, airplane ownership is about more than cruising across the country, going to weekend fly-in pancake breakfasts, and taking in the beauty of the local landscape. An airplane, as pilots in Alaska know all too well, can be a valuable tool to help people and animals in need. It is relied upon to transport food and supplies to remote locations; take sick and injured people to and from medical facilities; and shuttle dogs, cats, and other rescued animals to their new caretakers. There aren't many limits to what a general aviation aircraft can accomplish.

As I was preparing this month's issue, I was fascinated by the "Flying on Faith" article written by Donna Jones. In a nutshell, her feature is about the use of airplanes to assist missionaries in their work throughout the world, accomplishing all of the tasks listed above, but the story's real focus is on the dedication, sacrifices, and courage of the individuals and families who make missionary work their life's calling. They are special people, and, despite the bad world news we hear and read about every day, it's nice to know that there are exceptional human beings doing extraordinary things around the globe.



Although I had received permission from Donna to shorten her lengthy story, I felt the subject was important enough to keep the article in its originally submitted state. As you'll read, the piece presents interesting personal accounts from missionary pilots and mechanics, a few touching moments experienced by workers, and, sadly, a couple of tragic situations involving innocent people trying to make a difference. It's my hope that this detailed article inspires more pilots to offer their skills and services to help others, whether those people are within our borders or in other lands.

Personally, I find it particularly exciting to see how man and machine can come together to make such a positive, significant impact on society. I thank Donna for this piece about the human spirit, and how flying can further it.

Yours in flight,

Keith Mathiowetz
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Flying on Faith

By Donna Jones

The Challenges of Missionary Aviation

Missionary aviation is probably one of the most interesting and rewarding areas of aviation. The challenges facing our missionaries who do ministry work in the remote parts of the world are immense and difficult.

Those also serving as missionary pilots and mechanics face a diverse set of daily challenges with ever-changing variables. Dangerous situations on the ground and air plague these operators in third-world countries where they are at the mercy of the weather, communication (or lack of), the people they support, government guidelines and procedures, and their own faith.

You have to be a jack of all trades to be able to handle unique situations that the average pilot and mechanic would never see. This definitely keeps them on their toes.

Serving with New Tribes Mission (NTM) since 1983, Doug Hefft has been

on both sides; he was a 206 pilot/mechanic in South America for many years before moving back to the United States in 2005 as NTM parts manager. His mission now is to shop, order, and ship aviation parts to all of the NTM programs all over the world. NTM Aviation has also become an important supplier for other related mission groups. He says his greatest challenge is to stay ahead of the parts game. Doug said, "People you love and care for are relying on this air service. You really hate to be AOG (aircraft on ground). That was always stressful. You have to plan many months ahead of time for parts you need as a pilot/mechanic in the field while coordinating the effort with the person placing the orders. Freight expenses, customs costs, and shipping delays to get parts and aviation supplies to these remote areas are generally ridiculous. With people on both sides planning ahead, the expenses, time

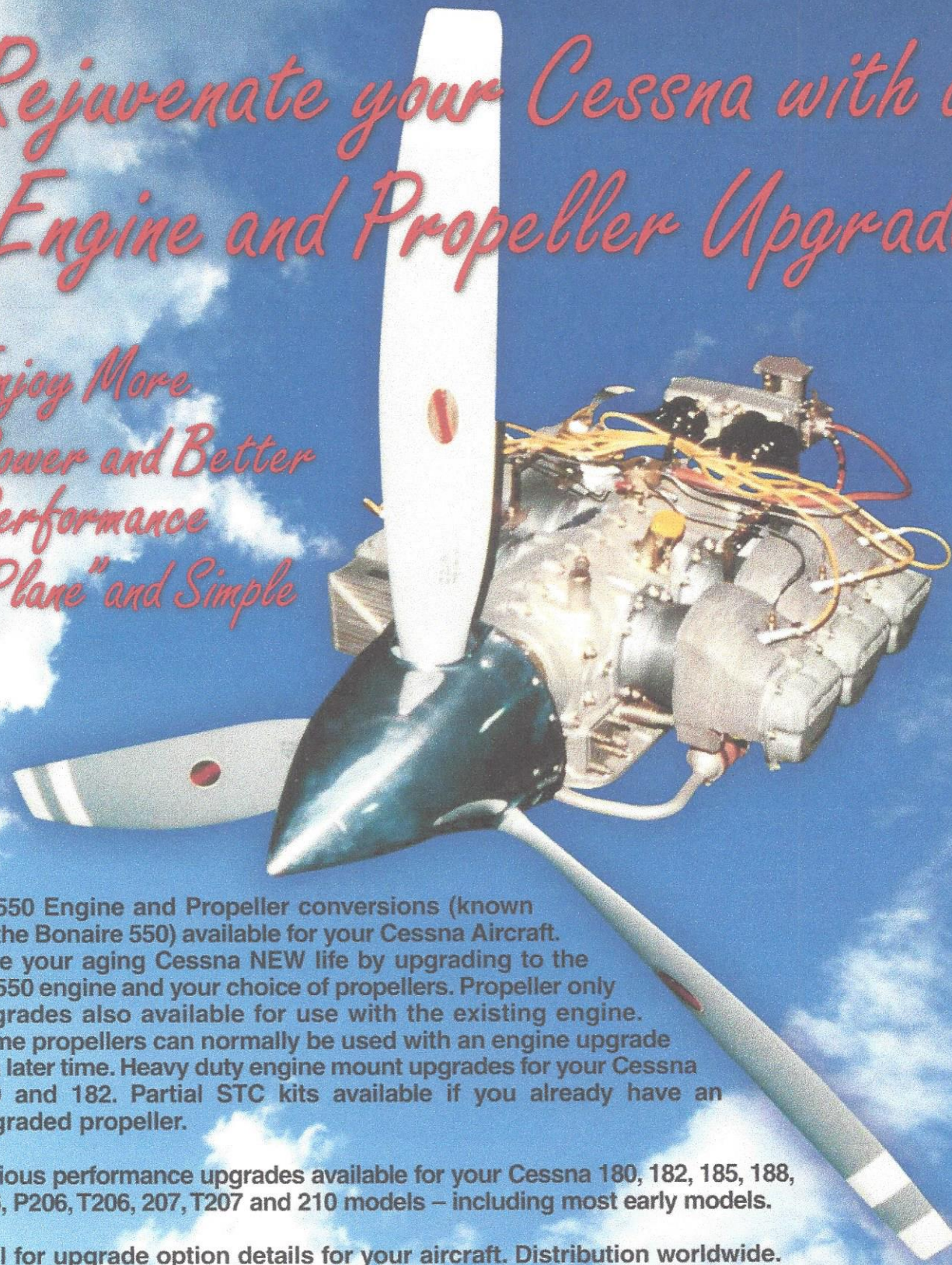
constraints, and stress can be minimized. All foreign aviation organizations face the same problems with parts and planning details. You have to look far ahead for the expected and deal with the unexpected when the problem arises.

"As a pilot/mechanic in the field, you were faced with other problems. The hours were long at times. In our experience, if you brought a plane in for a 50-hour, and it had to go out the next day, it was understood that you were going



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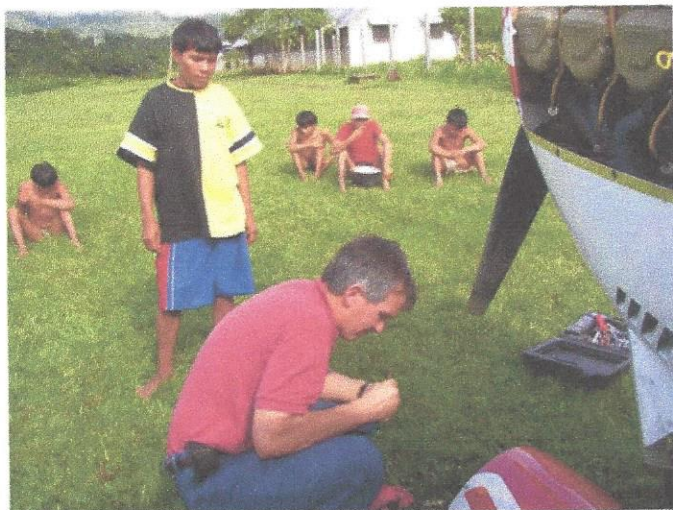
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Doug Hefft, of New Tribes Mission, takes care of some maintenance chores in the field.

to stay with everybody and get it done. You were always fighting weather and the other variables to keep flying. It was difficult to have to fly in to tell a fellow missionary his father had passed away unexpectedly and wait while they got ready for the flight back to the city to head to the United States for the funeral. There is also the joy you find, and you regain new hope when you land in a jungle airstrip and have the missionary tell you that six more people have put their trust in Christ since you last landed there. A continuous struggle for me was handling the good and the bad together."

Trying to gather some additional data, I watched a video from the New Tribes Mission website describing how the mission planes are used by their organization. Larry Dye, NTM Aviation pilot and instructor, said, "There are no roads to most remote tribal villages. Hikes that could take a week or more require only minutes in an airplane. It's an ambulance, it's a taxi, it's a school bus, it's a grocery store for the missionaries we serve and the tribes we reach." That's a pretty diverse description but really sums it up. In reality, his description for missionary aviation use of their aircraft really is correct.

Jonathan Schmidt, SAMAIR Peru pilot, gave me an example of the standard day relating to his flying and other work in Peru. Jonathan said, "We fly from the central jungles of Peru to an area similar in shape and size to the state of California. A typical day starts early with pre-flighting one of the three Cessna 206s we operate and gathering weather by calling

on the phone or HF radio to as many villages that will answer. (We have discovered that if the call does not go through, more than likely it is because it is heavily clouded and the batteries are not being charged by the solar panels adequately to run the phone system). The next steps include planning the flight route, fueling and presenting a flight plan to the local ATC (even though we operate out of our own private grass strip), receiving the passengers, preparing a passenger manifest, and weighing the cargo. This is followed by loading the airplane and tying all the cargo down. Then, we load the passengers and give them a briefing in Spanish. The flight begins as we crank up and taxi to the runway (500-meter-long grass), doing the pre-takeoff checklist, reviewing abort point, and reviewing the emergency procedures. Then, I take off and climb to altitude and enjoy the view of what God has created. The Amazon jungle is amazing – and huge. Upon arrival at our destination, we always overfly the runway to confirm the condition of the runway, wind, obstructions on the runway, and plan where we are going to touch down. This can be very important based on the undulations, slope, curve, or surface. I must then complete the pre-landing checklist and fly the approach using STOL technique. We end up flying the natural flute sounds that you get in all Cessna 206s, ending up with something between 50 and 60 knots, depending on weight. Of course, all of you know this is the best part – making the airplane sing your tune to touchdown regardless of the conditions!

"An airplane landing in most of these communities is a big deal! School is let out, meetings are put on pause, wash gets put aside, and the whole community comes to watch the airplane land. In many places, they line the whole runway, which is a little nerve-wracking in itself. And now that technology has arrived to the deepest jungle, there are several digital cameras taking videos of the landing. As soon as the propeller stops, the airplane is completely surrounded by people, all wanting to know everything. 'Who came?' 'What did they bring?' 'Did you bring my request?' 'Can you take this gift, package, money, or whatever?' Then there are the many, many poses with the airplane in the background. I even get called in to pose with them. And, naturally, there are the kids that want to pen or scratch their initials in the airplane (Why not? You could be famous). Others see if a stem of a plant will fit in the slot between the elevator and the horizontal stabilizer. And there are always the 'thumpers' that think the airplane sounds pretty good as a drum. It is a pretty busy time trying to protect the airplane while trying to show them respect at the same time. Unloading is always easier than loading. We carry all kinds of living things, like sheep, ducks, chickens, turtles, and even young bulls.

"Once unloaded, it is time to gather all the hopeful passengers, record their personal information, weigh their cargo, and calculate the total weight and expected performance out of that runway with the current conditions. When it gets fun is when there is too much weight. Who is going to stay, and with whom, and who

is going to have to do without his cargo? Or is everyone going to pull out an equal amount of weight from their cargo? It is pretty easy for me; I just tell them that we can all climb in and point out about where we would all die at the end of the runway. They always think it is funny, but it does wonders to motivate the necessary drop in weight. Finally, I confirm the fuel and oil. I climb in, and the process starts all over again. And, imagine this: there is a completely different set of challenges for our float-equipped Cessna 206.

"We meet a variety of challenges, starting with the weather. It is tropical, which means that it is difficult to predict. An accurate report of the weather at the destination is most important. However, in the two hours it takes to fly there, we may have to deal with several weather systems. Keeping up with the third-world country regulations to stay legal keeps us in reams of paperwork and is very costly. The runways we fly into on a regular basis must be maneuvered with caution. There are many very short, narrow, curved, muddy, and slippery runways. Well, as pilots, we actually enjoy that part. In general, every aspect of operating in third-world countries has obstacles. You can overcome them by taking them one at a time. Eventually, you learn to expect those obstacles and be better prepared for them. Situations that developed as a result of not-so-good judgment have given me plenty of experiences to pass on to the next generation of pilots."

Maintaining the Aircraft

In many of the remote countries, aviation operation requires facilities to house and store parts for aircraft. Sometimes, primitive buildings are used for hangars. They are fortunate to build hangars in other areas. Space is needed for storage of fuel, tools, supplies, and other parts necessary to keep the planes flying. Fuel is often stored at offsite locations to allow refueling mid-trip to the different remote locations.

The pilot is also the mechanic who maintains the aircraft. Regular maintenance of the aircraft is done in the hangar, which doubles as the "shop." Wherever the plane is parked may become another shop, if necessary. It is a little more difficult to fix a problem in the jungle, but, sometimes, it becomes necessary should the need arise. For the float-equipped aircraft, maintenance may be performed while the aircraft is tied to the dock. Otherwise, the aircraft is pulled out of the water on a makeshift trailer and ramp designed specifically for that aircraft.

Jonathan Schmidt from SAMAIR relayed, "If there is a mechanical issue during one of the flights, after prayer, finding a safe place to land is next. When everything is going smooth and you have to fly past a runway to make sure it is ready for you, imagine adding a mechanical problem to that. Finding a place to land in the jungle may be a task in itself. Once landed, and the problem is determined, you hope you have a stock of the parts

to repair the plane or that you can get the parts in a timely manner. Being AOG is never any fun. The aircraft is a necessity where we are located. Preventative maintenance is a key for us. Sometimes, mechanical problems will occur. We keep a lot of spare parts for that reason. You just determine the best way to handle it based on your circumstances. Your priority is to get the plane flying again."

Remote Locations

Missionaries have established themselves all over the world. They work under a variety of organizations. Aviation organizations work with other groups to provide their aviation service to form alliances that will partner their efforts. Missionaries support and teach. Aviation mechanics and pilots act as missionaries to the missionaries. Not only do they support and teach, but they deliver the support and teachers to designated areas.

Special People

Missionaries, regardless of their call of duty, must make sincere sacrifices to volunteer themselves to this service work. Missionary work in the United States or in other countries is a complete devotion of your life and your family's to do God's work. I've been fortunate to work with many missionaries through aviation. Every person I have asked about their work in the mission field has not looked at their change in life as giving something up but as gaining the right to give to



18 CESSNA OWNER



The dirty and clean aspects of SAMAIR operations.



Kevin and Tasha Spann.



Jonathan Schmidt of SAMAIR performs engine work and storage activities.



others. I had never thought of it that way. Selfless and special people are sharing their faith, knowledge, and love in remote areas where indigenous people are located. At the same time, they are teaching these tribes to teach others in all areas. While meeting religious needs, they also teach these people to care for themselves in ways not available without the training, technology, and support from our missionaries. They provide hope to people who know little about what that means. They provide medical attention and education to families, who otherwise would die without the efforts. Once trust and area of need are established, the outreach continues to spread to other tribes and remote areas yet untouched. Aviation resources help them get to and from these areas and extend their reach to these groups.

I had the opportunity to meet Kevin Spann recently. In the last year, Kevin and his wife Tasha have been accepted by Mission Aviation Fellowship (MAF) to work in the Democratic Republic of the Congo. After talking to Kevin and reading some of the material regarding their background and upcoming journey, I was intrigued by their story. I wanted to share how they came to be a part of

the MAF program and the process requirements they completed – and must complete – before they leave the United States on their journey. These are standard procedures for all MAF pilots and families. MAF criteria for pilots and mechanics and their families are very broad. Not everyone is accepted, and the process takes years to complete once you are approved. Their story, with some variation, is similar to that of others who have pursued this “mission” in life, regardless of the aviation group affiliation.

Kevin says that, early in life, he knew he wanted to be in aviation. The path he has led included receiving a college degree in aviation maintenance management at Middle Tennessee State University and getting his pilot’s license (instrument, multi-engine, and commercial) while working at a flight school as an aviation mechanic. This job led him to a director of maintenance job at an aircraft charter company. In 2007, he and Tasha went to the Dominican Republic on their first overseas mission trip. They fell in love with the people, culture, and the idea of helping others overseas. By 2009, as the economy continued to change, their path led them to the mission field and Mission Aviation Fellowship. They began working toward the stringent requirements to participate in

the MAF program. Finally, in April 2011, they went to the MAF headquarters in Nampa, Idaho, for a two-week interview. By July 2011, they had started their candidacy and fundraising efforts. Every missionary must raise the funds to support themselves. The current amount is \$7,200 per month in ongoing support. They must also raise money for a one-time cost to cover pilot and maintenance standardization training, language school, airline tickets, shipping cost, and other preparation costs for service overseas. They are well underway with their efforts. A few months ago, they were already at 60 percent and still counting. Churches in the United States and individuals have committed to support them financially and in prayer. They hope to reach their fundraising requirements in the upcoming months. Beginning in August 2012, Kevin will start his pilot and maintenance training program, while both he and Tasha attend French language school in Quebec, Canada. With this schedule, they hope to leave for their Congo destination by late 2013. Their commitment to this program will be long-term.

Other organizations have similar requirements. The lengthy process requires much hard work



Typical views of the landscape for a New Tribes Mission pilot.



Missionary aircraft often have to be moored at makeshift docks.

and dedication long before you ever get to your intended destination. Kevin and Tasha are a very special young couple who will make a wonderful addition to the MAF family. They are excited to get their training completed and become a valuable asset to the program in the Congo.

Cessna Use

Many of our missionary organizations operate Cessna 206 aircraft because of their versatility in the field. With cargo doors and a six-passenger capacity, these aircraft can fly in and out of short, rugged, dirt runways in the middle of a jungle or land on the top of a mountain without difficulty. Mission planes are a life line in some parts of the world. Although organizations have added other smaller or larger aircraft and helicopters to their fleet, the Cessna 206 aircraft have been a dominant part of operations for missionary pilots in most remote conditions. Many parts of Africa, Philippines, South America, and New Guinea cannot be reached without weeks of treacherous travel other than by a small aircraft. Where a "mini van" is needed, the Cessna 206 fills the gap. MAF calls them the backbone of its fleet.

I have been fortunate to work firsthand with some of these aviation groups. Through my work with Davis Aviation (and previously Bonaire Aviation Company), higher-horsepower engine and propeller conversions have been provided for hundreds of Cessna aircraft in the mission field. Most of these aircraft have been Cessna 206s. In the areas of operation these pilots fly, they need all of the safety margins they can get with a full

load and diverse weather conditions. The higher-horsepower IO-550 engine for these aircraft improves the performance by 10 percent to 20 percent. The pilots tell me that every extra percent is greatly appreciated. The new-design propellers allow even better performance and require minimal maintenance. Other modifications, such as cargo pods, special radios, STOL kits, etc., are just some of the modifications necessary for missionary operations. GPS receivers are often installed on the aircraft that allow pinpoint location within 50 feet anywhere in the world. Given the environment in which they operate, pilots couldn't operate with the level of safety needed without making many modifications to the standard aircraft. In these unique areas of operation, ever-changing weather conditions and unknown parameters while landing and taking off really have these pilots flying on their faith.

SAMAIR pilot David Speyers elaborated on the organization's Cessna 206 aircraft operation in Peru and Bolivia. "Our airplanes have Flint Aero tip tanks and Davis IO-550s. The tip tanks give another 200 pounds gross weight increase. People always want to carry more stuff, so any extra weight we can carry is welcome. The IO-550s all have GAMI injectors. This is important, as it allows you to run lean of peak (LOP); this saves on fuel cost without much of a speed penalty. We usually see true air speeds of 123 knots; this is with 800 x 6 or 850 x 6 tires and belly pods. All of our airplanes have the Hartzell Top Prop (paddle blades, not scimitar). The 550 is stronger than the 520; you can get up to 12,500 or 13,500 at gross weight, but it takes a while, and climb rate is down to 200 fpm by then. Also, the percent power is way down, maybe only 45-percent power. At 5,500 to 7,500, you can still make 60- to 65-percent power, even LOP; fuel flow for 25 to 50 LOP is about 13 to 13.5 gph. You can go leaner than that; I see 11 gph at 10,500, which is 50-percent power. LOP fuel flow is directly proportional to horsepower. The GAMI folks have a formula which is pretty simple. If you are lean of peak, take your gallons per hour and multiply by 13.7 (if your compression ratio is 8.5:1); that will give you horsepower, then divide by max rated horsepower to get percentage of power. For example,

13.5 gph times 13.7 is 184.95. Divide by 300, it is .6165, or 62-percent power. Again, this *only* works if you are LOP, which is why the GAMI injectors are so important. If you must run at rich of peak (ROP), we do that 100 degrees ROP, fuel flow is 17 to 18 gph! Obviously, the savings of LOP are great, even in a country like Bolivia, where the government subsidizes fuel to the tune of \$2.50 per gallon! Peru cost of fuel is \$6.50 per gallon.

"The airplane is a tool for reaching and supporting remote locations. Although all of the SAMAIR pilots enjoy flying and fixing airplanes, the main purpose is to see changed lives, physically and spiritually in the name of Jesus Christ. It is always nice to have a reliable airplane when you fly over the jungle in virtually untouched space hoping the weather is cooperating."

Although some aviation missionary organizations have specialized operations, for most aviation missionaries, their regular flights include:

- Air ambulance used to fly sick, hurt, or pregnant patients to the hospital or from one hospital to a larger one.
- Bringing in doctors and nurses and their medical supplies to treat patients. Medical and health care is important for the tribes they help.
- Taking missionaries and the tribal people to and from their villages.
- Taking the children to and from a central location for school.
- Delivery of medical supplies, educational and bible-related materials, animals, and other general supplies.
- Delivering or picking up mail or packages going back and forth to the United States.



A New Tribes Mission aircraft is welcomed in a remote community.



Another successful SAMAIR flight.



SAMAIR's David Speyers, right, visits with a friend during a mission.

While working with the tribal people, they not only provide necessary day-to-day essentials, but can share their faith with them.

Air Ambulance

Known as “wings of mercy,” thousands of lives (and souls) are saved by using airplanes to transport doctors, nurses, and medicine to patients in minutes instead of days and weeks. Because airplanes are used as an air ambulance, pilots are called upon day or night to help in a medical emergency. They can respond quickly and effectively to save lives and ease suffering caused by accidents, disease, disasters, deadly epidemics, and complications of childbirth. The only way to reach a hospital or health clinic in some areas is by a small plane. The Cessna 206 is a perfect station wagon. The cargo doors open wide, and seats can be removed to allow a stretcher to be put in the plane for accommodating the patient. The pilots can help get someone who was trampled or “tusked” by an elephant or a woman needing a C-section to deliver her baby to the hospital in a hurry. In some cases, it may mean transporting a patient from a small hospital to a larger hospital for specialized treatment. Without the aircraft being available, death from even a minor injury or from childbirth may be imminent for some patients. Unfortunately, it may be that the plane is an ambulance and then turns into a hearse to deliver a body back to a grieving family.

Care Provided

Regular medical care, health care, and dental care are provided by many missionary organizations for the tribal people they serve. Providing medicine against disease can prevent widespread epidemics. Without proper medical care

and assistance, Ebola, measles, cholera, and malaria can be a death sentence for people in remote areas. Fortunately, the Cessna 206 and other planes like it cannot only carry personnel to these locations, but the necessary medical supplies to remedy the situation.

Disaster Response

MAF is often called upon by relief organizations in disaster situations. It played a major role in coordinating relief and rebuilding efforts after the devastating earthquake in Haiti in 2010. In 2005, it was essential in Indonesia, providing aid and relief supplies after a series of earthquakes and a tsunami ripped through Meulaboh, northern Sumatra. In 2007, Bangladesh was hit hard by Cyclone Sidr. Again, MAF flew aid to those areas. The same year, there was an Ebola outbreak in the Democratic Republic of the Congo. Transportation for doctors and medical supplies was provided by MAF. MAF and other missionary organizations provide transportation in foreign remote areas wherever and whenever needed.

Rebellions

Unfortunately, our missionaries are in areas where there may not be a peaceful atmosphere. They get caught in the middle of local rebellions and may require rescue to remove them and their families from unsafe conditions in a timely manner. Zaire (now the Democratic Republic of the Congo) has been commonplace for such rebellions. In 1964, MAF conducted rescue operations for missionaries caught in the crossfire. Many were killed then. Throughout the 1990s, fighting among the political parties and ethnic groups caused great duress in the country. Evacuation and relocation was necessary. Flight operations helped move

those families to safer locations. Current times have allowed the missionaries to return there and continue their efforts to work with the tribes of the Congo.

Community Development

Work continues to improve the quality of life for the local tribal population by reaching isolated people. Solar energy initiatives, well digging projects, agricultural programs, and other development initiatives, such as communications services to provide internet access, have become helpful to improve the living conditions. This continued development enables thousands of families otherwise cut off from civilization to develop safe, healthy, and productive communities. Aircraft carry essential supplies to remote locations. They use the aircraft as a learning tool.

School Bus and Taxi

Cessna aircraft are used to transport students to and from the missionary established schools. Without the aircraft to act as a taxi service, these students would not have the opportunity to become educated and minister to others. What they learn, they pass on to other family members and tribes and become teachers themselves.

Travel back and forth to the villages is provided by our missionary pilots. Some areas cannot be easily reached by land or water. In other areas, air is the only way to reach them.

Delivery of Supplies and Mail

In the remote areas of the world, you simply cannot get in the car and go to the store. Walmart is not located in the jungle. Aircraft use their cargo capacity to bring much-needed supplies, food, and other items to these areas. The seats can

be removed from the Cessna 206, and supplies can be loaded in quantity. The cargo pod underneath the belly of the plane can be filled up also. Gross weight is calculated to get the maximum amount of supplies delivered at one time. Live animals are carried, as well. One of the pilots told me about one of his trips where his cargo included a pig. During the flight, the pig got rowdy and kicked his way out of the cargo pod from the sky. Unfortunately, pigs cannot fly. That is now a proven fact.

Mail and packages to and from the missionaries and tribal people are delivered back and forth. Shipments of aviation parts and supplies are included in some of these trips.

Language Barriers

Missionaries face language barriers in areas where they are becoming established. There are thousands of unwritten languages used by the tribes. In order to communicate with the tribal people, missionaries must learn the language of that area and understand their culture to teach effectively. Once the communication barrier is overcome, it is easier to work there. This can take years of work to be able to communicate with ease. Translations must also be made. Often, they teach English to local people in order to train them to work in the missionary facilities.

For a pilot, that communication must be established in a very timely manner to be able to land and take off in remote areas. Weather and other pertinent information must be communicated in order for the pilot to fly in and out of these remote places without difficulty. Language school is a necessity prior to a pilot taking over the controls. Learning the language of the local tribes is an ongoing experience.

Dangerous Work

Although missionary work is rewarding, it is still dangerous work. Missionaries make their homes and become family to the tribal people where they are based. Aviation pilots and their families normally make this a lifetime career, which means they establish a permanent home in the country they operate. Although most people are supportive of their efforts, there are those who resent the missionary presence. In current times, many countries, where the need for missions is greatest, they are not welcomed. These areas make an aircraft a high-profile item and create suspicion and speculation.

In 1956, Nate Saint and the four other MAF missionaries were tragically killed in Ecuador. They had made contact with the Waodani (or Auca) tribe, known to be a dangerous tribe. In their plane, they circled the area and dropped a bucket on a rope with gifts for the tribe. This continued for a while. The Aucas finally sent back a bird. Taking this return gift as an act of peace, they landed on the beach to meet with the tribe. They were violently killed with spears and machetes. Even though there was such a tragic incident with the Auca, many missionaries continued to reach to this tribe and were successful. Years later, Steve Saint, Nate's son, was "adopted" by the man who killed his father and lived with the Waodani tribe for more than a year. Thousands of missionaries were stirred by those deaths and dedicated their lives to reaching tribes like the Waodanis in all parts of the world.

Another tragic incident occurred in 2001. Kevin Donaldson, working on behalf of the Association of Baptists for World Evangelism (ABWE) in Peru, was operating a float-equipped Cessna 185. Not long before this incident, ABWE

had purchased and installed an IO-550 conversion from me to help improve the aircraft's performance. I had been communicating with Kevin for a long time to assist in ABWE's purchase of the engine upgrade for the aircraft. The organization's time planning, fundraising efforts, and shipping options played an important role in its long-term strategy. Our last communication after the upgraded aircraft was flying was to let me know how well the aircraft performed.

I was shocked to hear what happened. This particular trip was a standard flying scenario. Kevin was to take Jim and Roni Bowers and their two children to Iquito, Peru, to obtain a visa for their 7-month-old daughter. Even though they had filed a flight plan, they were shot down by a Peruvian jet, whose crew thought the ABWE aircraft was a drug plane. Roni and her young daughter were killed instantly from the gunfire. Kevin was seriously injured with gunshots to his legs but was able to safely land the aircraft on the river. The aircraft caught fire but flipped over in the water, helping to put out the flames. Jim Bowers and his son survived the accident.

Seeing the pictures of the plane on the national news was very upsetting. A bullet-riddled propeller, full of holes from the gunfire, sitting on the front of a charred 185 aircraft on floats was a shocking, vivid picture of the outcome of the incident. Knowing the missionary pilot and the important work he was involved with really hit home. Kevin underwent numerous surgeries, but, last I heard, he had returned to the mission field. The CIA investigation and changes in the laws regarding foreign aircraft operation followed this tragic incident. A huge flood of people decided to become missionaries after this accident.



Villagers greet a New Tribes Mission airplane.



Every seat is filled during this New Tribes Mission trip.

Who They Are and How to Reach Them

Listed here are missionary organizations and some details of their operation. For additional information on their operations, and how to support these organizations, take a look at their informative websites. The expense of aviation operation for missionary planes in foreign countries is tremendous. The people that make the program work are incredible people who need continuous financial and prayer support.

Mission Aviation Fellowship (MAF)

www.maf.org was established in 1943 and is one of the largest organizations of its type; its home base is Nampa, Idaho. With MAF locations or affiliates throughout the world, it has representation in these areas: United States, Europe, Costa Rica, Asia, Democratic Republic of the Congo, Haiti, Indonesia, Lesotho, Mozambique, Zimbabwe, Australia, Bangladesh, Chad, East Timor, Kenya, Madagascar, Mongolia, Papua New Guinea, South Africa, Tanzania, Uganda, Brazil, Ecuador, Guatemala, Mexico, Suriname, Angola, Canada, and Mali.

Through its aviation fleet and the personnel supporting its programs worldwide, MAF is able to serve indigenous people living in areas of the world where transportation and communication is difficult. By providing aviation assistance, MAF enables the work of more than 1,500 churches, healthcare organizations, relief agencies, development groups, government agencies, and mission organizations. MAF also provides medical assistance, relief operation efforts, communications, and learning technology services to support the work of these groups represented by thousands of individuals who are working to spread the gospel and improve the conditions of remote people.



There is no such thing as an unusual load.



New Tribes Mission (NTM)

www.ntm.org was founded in the United States in 1942. It works only among the world's least-reached people groups and equips those groups to lead their own churches. It has approximately 3,000 missionaries serving throughout the world. Although its home office is in Sanford, Florida, NTM has missionary training facilities in Wisconsin, Michigan, and Missouri, as well as a mobilization facility in Pennsylvania. Its United States aviation department is located in Arizona. This location provides aviation support for the entire program worldwide, providing parts as well as maintenance training for the field.

New Tribes Mission has aircraft located in its missionary programs in Papua New Guinea, Indonesia, Bolivia, Brazil, and Philippines. It has a few aircraft in Arizona that are used for training purposes and are being prepared to send to the field. Its primary fleet is Cessna-based to include many U206s (normally aspirated and turbocharged models), a 182, and a variety of 185s. An R44 helicopter, King Air, and a Kodiak are nice additions, as well.

The goal of New Tribes Mission is to reach people groups that need community development in remote areas. It continues to spread new churches by providing biblical education, pastoral training, and other relational mentoring of local church leaders. Medical assistance and disaster relief are available from NTM missionaries.

South America Missions (SAMAIR)

www.southamericamission.org has its home base in Fort Mill, South Carolina, with foreign operations in Peru and Bolivia. It flies for more than seven foreign mission organizations and at least three national mission organizations. These people depend on SAMAIR completely

for its service for their ministries. In some places, there are no roads at all. A typical one-hour flight can save a missionary two weeks of traveling by canoe or foot. SAMAIR supports mission work in tribes that includes bible translations, discipleship and bible classes, freshwater well drilling, and free medical clinics for the whole community/village. It flies to 27 tribal groups, each with their own language and culture. Some have been very much westernized, while others are still very primitive and speak very little Spanish. Other programs, such as medical and health care, drug rehabilitation programs, and agriculture development, have become a big part of its operation.

Flying Missions

www.flyingmission.org was established in 1977 to provide air transportation for medical and mission work in Botswana. It is now located in Botswana and Zambia. Most of its operations are handled from its Botswana locations, including the flight and maintenance programs. Flying Missions operates three Cessna aircraft – two 206 aircraft and a 210 – from its Zambia location to nine provinces. It partners with organizations operating in those areas. In Botswana, since the early 1990s, Flying Missions has been a licensed aircraft maintenance facility. It operates aircraft – two Beechcraft King Airs and a six-passenger Cessna 207 – out of its bases in Gaborone and Maun. It maintains its own aircraft, as well as other owner-operator aircraft. In 2004, it was able to offer its own aircraft maintenance engineer (AME) training program. This program has been successful and has allowed the organization the ability to teach aircraft maintenance training locally. The need for aviation services in Botswana and southern Africa continues to grow.



Extra income from outside maintenance helps offset its expenses. Additionally, it changed its program in 2005 to a "for profit" type of flight operation. The income generated through flight operations allows the program to fund other non-profit work. Air ambulance and charter flights are kept busy taking care of patients needing transportation to larger hospitals. FMS offers on-demand charter flights throughout southern African from the Maun and Gaborone Botswana bases. Besides working with missionaries, churches, and tourists, other clients using the service are government officials and agencies, as well as local business organizations.

These are just a few of the many aviation-oriented missionary groups. Others are ABWE, MMS, AIM AIR, MFI, and Air Serv, just to name a few. Their programs are similar to one another in their mission to serve others. Aviation helps these programs serve effectively.

Moody Aviation, JAARS, Alpha Aviation, and other related organizations continue to offer programs to provide aviation training to the pilots and families who are chosen to serve in the mission field.

Summary

Aviation operation is difficult for missionary pilots and mechanics, as they are continuously challenged beyond belief. The next time you turn on the news and see an airplane delivering supplies to a disaster area after an earthquake or hurricane, think about these special people.

When you hear about an epidemic outbreak somewhere in Africa, these pilots are probably already delivering missionary doctors and medical supplies to some mountain top in a remote place you probably can't pronounce.

At this time, these missionary pilots and mechanics are facing yet another unique challenge of the day (or night) while they work hard to continue to save lives (and souls).

Happy and safe flying! ^{CO}

About the author and Davis Aviation: Donna Jones has worked in aviation for 20 years. She began in aviation with Bonaire Aviation Company and stayed with Davis Aviation when it bought the Bonaire 550 product line in 1998. She helped establish 30-plus STCs for the single-engine Cessna line, as well as assisted in numerous field approvals and deviations when an STC was not available for a particular installation. Davis Aviation continues with worldwide distribution of the Bonaire 550 engine and propeller upgrade, propeller-only installations, and engine mount modifications. Davis Aviation offers a variety of STC options for Cessna aircraft, as well as a few upgrades for Piper airplanes. Davis Aviation can be reached at (423) 652-1113. Website address is www.davisaviationservices.net.

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