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Flying the
islands in a
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Careers in Aviation / Pilot Report: Alon Aircoupe



AFRICA

In a land that's bigger than both of us where getting around is done mostly by putting one foot in front of the other, an airplane in the hands of a missionary is a godsend.

by Brother Michael Stimac, S. M.

A MIRACLE HAS COME to Africa and the miracle is the light airplane. The shroud of mystery and darkness that has lain over this giant continent is suddenly and decisively being rolled away by aircraft that can reach every corner and come for every kind of purpose.

Until recently, this modern miracle was not available to the majority of the people doing the most for Africa—that is, the missionaries. And then came UMATT.

United Missionary Air Training and Transport is a project put together by a group of Americans, both in the United States and in Africa. The goal was to make good American aircraft available to missionaries in Africa without regard to denomination and without charge.

This was successfully done in 1965 and on the first aircraft, a Cessna 206, a thousand hours were run up in seven months. Anglicans, Catholics, Mennonites, Africans, Peace Corps Volunteers and slow-moving European officials were all included in UMATT flights.

The project turned out to be a revolution, and a revelation. So inspiring are the results that the UMATT supporters intend to complete the model fleet and provide an ideal example of U.S. leadership and assistance abroad with eight airplanes operating in East Africa. The cost of the entire operation will be borne by the UMATT donors.

All African flying is adventure and UMATT really covers Africa. One day's example started from Nairobi at sun-

rise. The heavily loaded N2169F had taken on a mound of baggage into the cargo pack and on board climbed the passengers: Bishop Stanway of Dodoma; Doctor Taylor of Muumi Hospital in Tanganyika; Mr. and Mrs. Miller, headed for Tabora; and an African mother with her child, who was recently cured in a Nairobi hospital.

With a few last bundles carried in beside the passengers and full long-range fuel tanks, the landing gear struts flared ominously. Nairobi Wilson Airport is at an elevation of 5,525 msl and it would take a good chunk of the mile-long runway for takeoff. During the long taxi to 06, I ran up the engine and while rolling cycled the prop a few times and checked the magnetos.

(text continued on page 118)

Above, left: Sister Michael Therese Ryan, the Flying Nun, gets set for another UMATT trip in her Super Cub. Left, below: A native helper gets some cockpit time. Right, above: The Cessna 206 with cargo pack made light work of ferrying four nuns and their baggage, plus Pilot Stimac, shown below. Bottom: The Cessna 206 regularly racks up 10 hours of flying time from sunrise to sunset.



The Flying Nun, Sister Michael Therese Ryan, visits a native village in East Africa.



AFRICA

The use of this method has almost eliminated trouble with propeller pitting even though a hard surface is almost never available for runup checks.

Takeoff clearance was promptly received and N2169F started to roll. At maximum throttle only 24 inches of manifold pressure showed. But the big Continental engine was working; the airspeed climbed up to 50 miles an hour and then I swiftly reached for the flap switch. Lifting the nose slightly, the flaps were kept dropping, 10 degrees, 20 degrees, 25 degrees, and then the airplane unstuck. Magnificent airplane that it is, 69 Foxtrot built up airspeed and climbed out into the African sky. Two hours later the first landing would be made several hundred pounds lighter and the next takeoff, minus a passenger or two, would be much easier. It would have to be so, for the next takeoff would be from a soft mission strip several hundred miles to the south.

This first leg of the day's flight would cross the southern part of Kenya, where the Masai tribe lives and the Emboseli Game Reserve, as well as the Manyara and Ngorongoro crater, is found. Along the way would be Ndareda mission where 69 Fox would drop low and dump out a package of vaccines and some hospital device that had been ordered through the Flying Doctors' radio. From there another half hour would bring the UMATT ship to Makiungu where the African patient would be left.

Finding these places and others in Africa is sometimes easy and sometimes very difficult but always interesting. Leaving Nairobi to the south one can ride out on an omni. There are three omnies in East Africa, about 400 miles apart. They are located at Dar Es Salaam on the Indian Ocean in Tanzania, at Nairobi in Kenya, and at Entebbe on the north shore of Lake Victoria in Uganda. The omnies are very useful when going into the capitals of the three countries because instrument letdowns or departures are possible. East African weather makes this necessary only periodically.

A number of low frequency beacons exist also, and they can be used for approaches. However, most of the time such facilities are used only for locating one's destination, for weather is not that much of a problem.

In East Africa there is no weather frontal system. This is tropical territory, however, with a pleasant climate due to altitude. Since no fronts exist, all weather consists of areas of cloud and of local storms. One ridge called the Mau Summit has thunderstorms regularly; thunder is reported heard on the average 360 days of the year—the world record. Furthermore, north Kenya is a desert, as also is the north central part

of Tanganyika and other sections. Consequently, the pilot knows that he will always encounter at worst broken conditions and probably clear skies almost all of the year here.

The gentle low turn of 69 Fox leaving Nairobi took the airplane out over the flat plains of the game reserve. Zebras continued to graze placidly and giraffe swung their long necks to point curious faces at the climbing airplane. Thirty miles ahead loomed the edge of the Great Rift Valley where suddenly the elevation, which had risen to about 7,000, would drop precipitously to 3,000 feet. This is the great Fault that runs from the Mediterranean all the way down to South Africa. The Rift Valley is a desert and one can expect turbulence below 12,000 or 15,000 feet such as only a desert with its violent air currents can provide.

Pushed by trade winds, 69 Fox easily slid over the valley wall with a few hundred feet to spare. A hundred miles farther, Ndereda, nestled against the cliffs rising almost 2,000 feet behind it, came into sight. The plane dropped and slowed. Flaps rolled out and a window opened. The package of hospital materials was made ready. In the still African morning the roar of the big Continental brought people out of buildings. As the ship passed over the hospital mission, the package fell away and a long cloth streamer unraveled behind. With only a glance that showed someone running toward the parcel, I trimmed the plane up and headed south.

Makiungu, the first stop, would be on a wide plateau, and there would be a clump of trees in the vast barren area.

In a little while 69 Fox was on a long approach for a wide spot in the road going to the mission hospital. Big boulders made one keep a healthy margin of altitude and speed on the approach. With flaps rolled out the threshold whizzed by and the plane settled on to the sand. It stopped before the usual crowd gathered from the hospital—attendants, patients and Africans of the vicinity. Without delay the African mother with her baby was turned over to the mission personnel and the plane got rolling.

Now several hundred pounds lighter, the big ship lifted out into a bit of head wind and was soon pointed across barren, rocky ground. Ninety miles later the Tanzania railroad was reached, 347 miles since the last railroad could be found for a landmark. The next one lay better than 500 miles ahead.

This is the problem with navigation in East Africa. The landmarks consist of some roads, a bit of railroad, mountain peaks, occasional towns, a few lakes and plenty of terrain. If maps gave the pilot all this, navigation would

be easier. However, a lot of area on aviation charts is left white with the legend "relief data incomplete." Eventually, pilots learn to recognize the land, and flights can be made with hardly any reference to the charts. Between what is available in air charts, and the maps of the Ministry of Lands as well as road maps by Shell and others, the pilot is able to identify a fair number of the landmarks that do appear. At least the landmarks are not ambiguous. When a town comes up, there won't be another for a hundred miles, so accurate guessing is easy.

The flight continued to Embumi where Bishop Stanway and Doctor Taylor were dropped off. Turning westward 130 miles, 69 Fox reached Tabora. Here, the 4,000-foot runways are of murrum, a silicate-based soil that leaches and packs wonderfully. Tabora is one of the flight service stations for the route through East Africa and it serves excellently as a central Tanganyika fuel stop.

Dropping off Mr. and Mrs. Miller, the Cessna, fuel tanks full, headed southwest. Landmarks disappeared and featureless plains with unmarked rivers and tributaries spread out below. Fleecy clouds floated at 6,000 feet in a bright blue sky. Navigation was dead easy, for Sumbawanga lay just beyond the north end of Lake Rukwa. After 45 minutes of flying, we approached rugged hills, and then a valley showed behind—another segment of the Rift. Lake Rukwa appeared in the valley stretching 70 miles southward; and across the valley, land rose sharply until 6,000-foot peaks nudged against the clouds. Behind them nestled Sumbawanga.

The trade winds following us broke sharply as they poured into the valley and then staggered against the high hills. The plane pitched and tossed, then dropped behind the hills into smoother air. The airstrip at Sumbawanga was 3,000 feet of grass sloping gently up to the east. With reduced power, the 206 quietly dropped to cross the field at 600 feet and then to make a quick descending turn for a landing. A circling inspection and approach would simply complicate the problem endlessly, for visitors would swarm to the field a moment after 69 Fox stopped rolling even with this sudden arrival.

In moments across the lush green slopes came a group of Sisters with the usual mound of baggage that characterizes African missionaries.

The return flight would be a pleasant task, for Tabora awaited with its radio beacon. Furthermore, when any trail or road was encountered in the next 200 miles, it could only lead to one place—Tabora. If a railroad was seen—only one of those existed also. And while in this season no chance of poor weath-

er existed, this arid interior of Tanzania promised that even the worst of conditions could only mean a half hour of circling while storm or visibility conditions improved for visual approach.

Time in the African sky passed quickly and the flying missionaries marvelled over and over again at the notion of reaching Tabora in less than two hours, after years and years of spending at least six days on the journey.

In Tabora we refueled again and then two Sisters and the two Mennonite missionaries climbed aboard. This time a brief jump of 140 miles—only an hour airborne—brought Makiungu in sight again and a stop was made. The afternoon was wearing on and the missionaries all took time out for tea together. A Catholic priest joined the flight and 69 Fox lifted into the late afternoon sky bound for Dar Es Salaam on the Indian Ocean. It would be night and a great yellow moon would rise out of the sea before the lights of Dar Es Salaam would appear. This was an easy night flight, what with VOR, ADF and a rotating beacon to utilize. Some of the other night flying isn't quite as nice.

Flights arrive after dark in the northern desert of Kingya, at Lorogumo Mission, having started from Kitale at sunset. Twilight lasts long enough for the plane to clear the 9,000-foot peaks at the edge of the flat desert where the aircraft then lets down to 3,300 feet. A course of 033 degrees will bring one out over the mission. The desert disappears into a black void and dots of light break out as the night fires are kindled in native family bomas. Now the clock becomes the all-important flight instrument. Twenty-eight minutes after passing the dark hulk of Mount Marota dimly massed in the western sky, the plane would reach the Lorogumo strip.

Either headlights of a couple of Land-rovers or new fires would mark the runway. When Land-rovers are on hand, one would be parked at the threshold to the side by 20 or 30 feet, pointed at the approaching aircraft, and a second one would be placed about a hundred yards up alongside the strip, also facing the pilot. This would serve to line up in the direction of the strip and also would allow the pilot to adjust his approach angle. The plane is put down this way often, touching down just after the first lights and before the second ones have passed by. The procedure is actually quite easy, for the evening air of the desert becomes very calm.

When plans and time have permitted, an elegant preparation greets the pilot. As the airplane approaches the vicinity of the airstrip, a row of bonfires suddenly crackles into life marking the airstrip. With wonderful ease, the big Cessna can

be lined up and set down before a watching audience of natives and missionaries.

As 69 Fox came from the Tanzania interior to Dar Es Salaam, the great golden moon had risen above the ocean. Dar Approach acknowledged and soon 69 Fox was on the ramp and taking in needed fuel.

Fuel actually is not a great problem in East Africa. Arabian crude comes down to refineries at Mombasa and elsewhere. Here the Shell Company, British Petroleum and Esso manufacture several grades running from 80 to 130 octane. It is shipped by tanker to the main airports of Entebbe, Nairobi and Dar Es Salaam. Other places get it in 50-gallon drums that make part of their journey by narrow-gauge railroad and then continue via trucks, jeeps, and finally in 5-gallon cans on porters' heads. The cost ranges from two shillings (less than 40 cents U. S.) to about 65 cents U. S. where the fuel has to be brought in a long distance. And it has been carried in all over, so airplanes do not get stuck in the bush very long if pilot planning happens to be not very smart on occasion.

The plane was ready in 15 minutes, for African airport crews are developing know-how and work with a sense of urgency when the pilot asks. An instrument plan was filed running up the coast to Tanga, past Voi in the Tsavo game reserve, and onto the white highlands where Nairobi would turn up. The Mennonite missionaries and the Catholic Sisters remained in Dar and I headed back with the Catholic priest.

The journey would be over late this night, and 14 hours plus 19 minutes would have accumulated since sunrise on the tach. This was a long one, but a lot of 11-hour days have occurred and eight hours in the air is not even noticed anymore with UMATT operation.

While all of the activity with UMATT gives one a real sense of contribution, the features of interdenominational service and of an operation where worthwhile mission workers can have an airplane without being snowed under with the problem of finances are the most wonderful. Thus the journey from Nairobi to Embea, running some 4½ hours, where the Catholic pilot took an entire delegation of Protestants to the Lutheran Convention, was a distinct breakthrough in relations among missionaries. No less so was the incident of George Raymond, the Protestant UMATT pilot who made possible a Catholic bishops' gathering in Dar Es Salaam by picking up several necessary participants from the middle of Tanganyika. The interdenominational service policy is both purposely and conscientiously pursued, to the great satisfaction of very many peo-

ple connected with UMATT support, as well as of very many missionaries who have wished for years that something would bring strangers who are still all members of the same Christian family together. UMATT has done it.

A much harder task elected by UMATT is the procurement of all needed funds for operation without burdening the missionaries served. The logic of this is simply that funds for transportation will have to be begged by persons actually using the transportation or by missionaries supplying the transportation. With typical American attitudes of efficient business, UMATT supporters have concluded that we, more easily than the missionaries, can present the story of the need to the American public. In addition, all the benefits of industrial aviation development follow from its organization and application through UMATT. Trying to obtain support is a continuous job, as it must be for every mission effort. But the philosophy and intentions of UMATT in helping our thousands of fellow Americans who are doing so noble a job in Africa are an appeal easy to present, so UMATT supporters continue to try.

More than that, the simple humanitarian accomplishments are most dramatic. One such is the inspiration brought to Doctor Hamlin in Ethiopia after he heard of the accomplishments southward. 69 Fox has been flown to a place south of Lake Victoria, called Sengarema, to drop off an African and to continue a short hour's flight down to Tabora. Only sufficient fuel was on board for a safe execution of this flight plan when upon landing at Sengarema, the plane was met by the whole hospital staff. It was already midafternoon and to the consternation of the pilot profuse thanks were being offered by the doctor for the arrival in answer to their emergency request.

It turned out that a man operated on several days previous by a Flying Doctor had taken a turn for the worse and needed blood transfusions. His type was exhausted in the vicinity and the only solution was to fly him to Nairobi. Radio conditions had prevented communications, so this emergency was not known back there. It was by chance and due to the copious circulation of the UMATT airplane that hope now existed for the dying man. Despite the low fuel situation and the approaching nightfall, there was only one thing to do. A seat-back was adjusted low and the man made comfortable while a companion climbed in on the other side. 69 Fox quickly lifted out and climbed. Nairobi lay 260 miles into the wind, but the lightly loaded wagon scooted along. The EGT meter was continuously peaked and adjusted for the maximum safe

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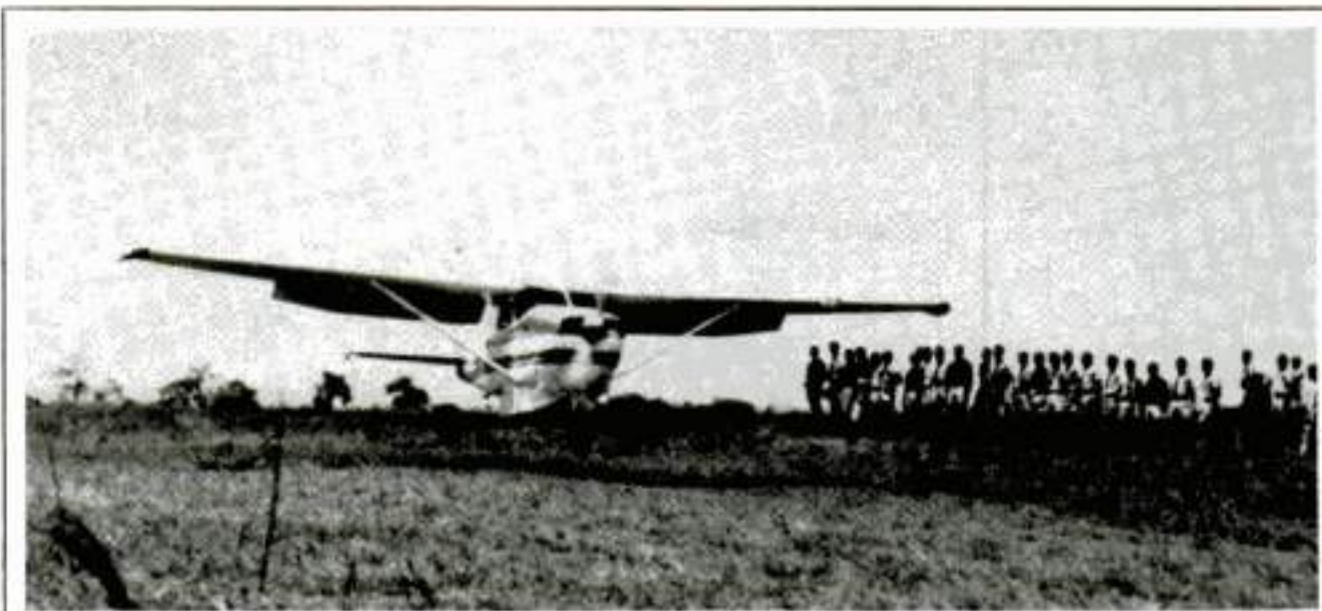
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Arrival of UMATT's Cessna 206 rarely fails to draw an appreciative crowd.

AFRICA

lean. This is certainly one of the most valuable pieces of equipment in bush flying, for it easily extends aircraft range by 30 percent out here, allowing accurate estimates of endurance. Barring the unexpected, the plane should have some reserves in addition to arriving into Nairobi and so it was just minutes before closedown of 6:30 that the airplane was on final. An ambulance had already been called and was waiting at the airport. The patient was quickly dispatched to the Kenyatta Hospital and his story had a happy ending. Not unexpectedly, seven gallons had still remained in 69 Fox's fuel tanks—containers which are affectionately referred to "all-day gas tanks."

Many flights—dropping off vaccines, bringing a doctor with his electrocardiograph to a missionary in the bush, bringing out a missionary so weakened by cancer that land travel was no longer possible, lifting an expert doctor to assist at a postoperative complication occurring at a smaller mission, and bringing together doctors for planning sessions that were essential—were all projects that Doctor Hamlin far to the north had heard of.

Doctor Hamlin is a gynecologist who annually performs 150 plastic surgical restorations of mothers who have suffered obstructed births. Because of terrain—spectacularly beautiful but impossible to travel—Ethiopia has the enormous problem of 15,000 cases of obstructed births per year. It is a normal statistical spread in a total national birth rate, which could occur anywhere in the world if doctors could not reach the mothers in difficulty and mothers could not be brought to hospitals.

Doctor Hamlin points out most convincingly how this problem can be eliminated in Ethiopia with even one aircraft. He has begged UMATT to join forces with him and his New Zealand supporters to put one aircraft into operation in a selected area. The sad situation of obstructed births could be completely eliminated along a 200-mile

line by this UMATT ship, bringing help and moving out patients. Doctor Hamlin, who has lived in Ethiopia for seven years and is an Anglican mission member from New Zealand, points out very convincingly how the government would adopt this as a solution for their national problem. To Doctor Hamlin's plan is joined the enthusiasm of new and old UMATT supporters who feel that a supply of 20 or 30 light American aircraft would be a most effective form of foreign aid that has too long been overlooked by Washington. Whatever the future, UMATT members are energetically searching for the aircraft, preferably a Cessna 206, and the operating funds for the first year to begin this magnificent Fistula Prevention Air Ambulance Project with Doctor Hamlin. I will take charge of the flight operation initially.

The UMATT field work grew out of the initial efforts of Sister Michael Therese Ryan, the Flying Nun with her Super Cub in the desert, and myself. We helped in both the mission flying and the African air program in the Kenya schools. We were subsequently joined by volunteers, George and Helen Raymond, who are Anglican and Episcopalian and came from California. Helen became the UMATT executive secretary and George was given charge of the Nairobi office and flight operation. Presently an airplane has been donated for service in Malawi, and a young Navy pilot, Bill St. Andre, has volunteered his services to fly it.

This is the story of UMATT—a story of a revolution bringing peace and prosperity, a story of hidden potential of general aviation coming to light, and a story that could be one of the inspirations of our time. To those who can help, the invitation is extended to join the team of UMATT. †

Brother Michael Stimac, a Marianist lay brother who has been working in Kenya since 1962, was one of the originators of UMATT's flying services and its first pilot.