

"My son, the pilot." Daniel tries out the left seat, while the plane is parked. A child's center of gravity "is considerably higher than that of an adult." Note the belt that is part of the infant seat secures the child's trunk, while the aircraft seatbelt holds his hips and the infant seat.

All photos by Dr. and Mrs. Joseph Fermaglich

Timely Tips For

Many people, lightplane pilots included, harbor deep-seated doubts about the wisdom of transporting small infants

■ ■ Nonfliers said it couldn't or shouldn't be done: Our son Daniel was only eight months of age; and, although my wife is proud of her private ticket, she was six months pregnant. An extended trip in a light aircraft would be impossible, the nonfliers said. Fellow pilots, though, judged it an excellent idea. So, but-tressed with my three-month-old instrument rating, we organized a trip from Washington, D.C., to Canada.

Planning was carefully done. No in-flight period was to be longer than 3 hours. Whenever possible, we would climb no higher than 8,000 feet. An adequate supply of fruit juices would be aboard and easily accessible. And, communication with the Gerber factory assured availability of baby food at each stop.

The planned route was Dulles International Airport to Westchester County Airport, White Plains, N.Y., where we would spend one night visiting friends. Then, on to Martha's Vineyard, Mass., for four days of rest and relaxation.

From there, direct to the city of Quebec for an equal number of days. Two days were not committed, to allow for unfavorable weather. Thereafter, on to Niagara Falls to see one of the Seven Wonders of the World; then, back home. Total distance—approximately 1,800 miles.

Early last summer, I checked local and en route weather. Dulles was reporting sky obscured, visibility 2 miles; New York was clear. Weight and balance were carefully calculated. With two adults in the front seats and baby and his chair in the rear seat, we were well within the envelope of safety with 180 pounds of baggage. If that seems like a lot, remember the last time you took your infant on a trip; diapers, food, milk, baby plate, clothing (and even the infant stroller), add up.

To keep Daniel secure and comfortable, we used his car seat. It serves as an excellent airplane seat. Manufactured by General Motors Corporation, it can be used for youngsters who weigh

up to about 30 pounds, and it has been recommended by William Alsever, M.D., a pediatrician at the State University of New York medical center. It consists of a molded plastic seat with its own belt, and is secured to the vehicle by the adult seatbelt. Experiments have proven it to be crashworthy up to about 30 pounds of baby weight.

The structure of the seat is very important. Children's, particularly infants', heads are quite large and heavy in proportion to the rest of their bodies. For that reason, the center of gravity of a child is considerably higher than that of an adult. As a result, a sudden stop rapidly pulls the baby up and forward. He is, in effect, readily airborne. The belt that is part of the infant seat secures the child's trunk, while the adult seatbelt in the vehicle secures his hips and the infant seat to the plane. Thus, weight and balance and center of gravity are as important when loading an infant into a plane as they are when loading less precious cargo.

Traveling with a child requires carrying additional baggage, including diapers, baby food, milk, baby plate, clothing, and even a stroller. All of this, plus one couple's regular baggage, fit into N2951L in the background.

When taking a youngster on a trip in a light aircraft during hot summer months, another important consideration demands attention. There is a great temptation to seat a child in the plane and then preflight. It's easier than carrying him and safer than having him run around on the ramp. But unless the aircraft is adequately ventilated, the child should be left outside—properly supervised—until all baggage is aboard, preflighting is completed, and, if possible, clearance is received. The aircraft's interior heat, because of standing closed for a prolonged interval, plus the direct effect of the sun's rays on the stationary aircraft, can easily increase inside temperature to an uncomfortable and even hazardous level.

In wintertime, other conditions prevail and must be considered: The aircraft is cold; operation of the engine at low rpm while awaiting clearance or during taxiing prevents adequate heating. Under these conditions, a youngster might be severely chilled. He should be kept in a heated area until taxi time.

Departure from Dulles was 10:30 a.m. Estimated arrival into Westchester was noon. When planning a trip with a youngster, remember he is not likely to wait patiently to be fed. To avoid the



Traveling With Toddlers

in aircraft. Here's a 'How To' by a physician-pilot who flew to Canada with his eight-month-old child—and six-months-pregnant wife

child's discomfort, plan your trips around his schedule so that he is fed on time, just as he would be at home. The en route portion of the trip is an excellent time for a child to nap and this was, in fact, the case with our son. As soon as we began our takeoff roll, his head dropped to the side; his eyes closed; and, while peacefully sucking his pacifier, he fell asleep.

Our assigned altitude was 7,000 feet, as requested. Approaching the New York area, we were instructed to descend to and maintain 4,000 feet. Because of Daniel's smaller eustachian tubes, I established a slower than usual rate of descent—300 fpm. When we passed through 6,000 feet, our boy began to cry. He was pulling on his ears, which suggested pain and, though our pain in hearing him cry was greater than his, we didn't try to stop him.

The eustachian or auditory tubes originate in the inner ear and terminate in the throat. They act as safety valves for the delicate structures in the ears.

In youngsters, they are smaller in diameter and more flexible than in adults. On descent from altitude, atmospheric pressure increases and it compresses the outside of the auditory tubes causing them to collapse. This results in the sensation of "plugged" ears. Thus, it

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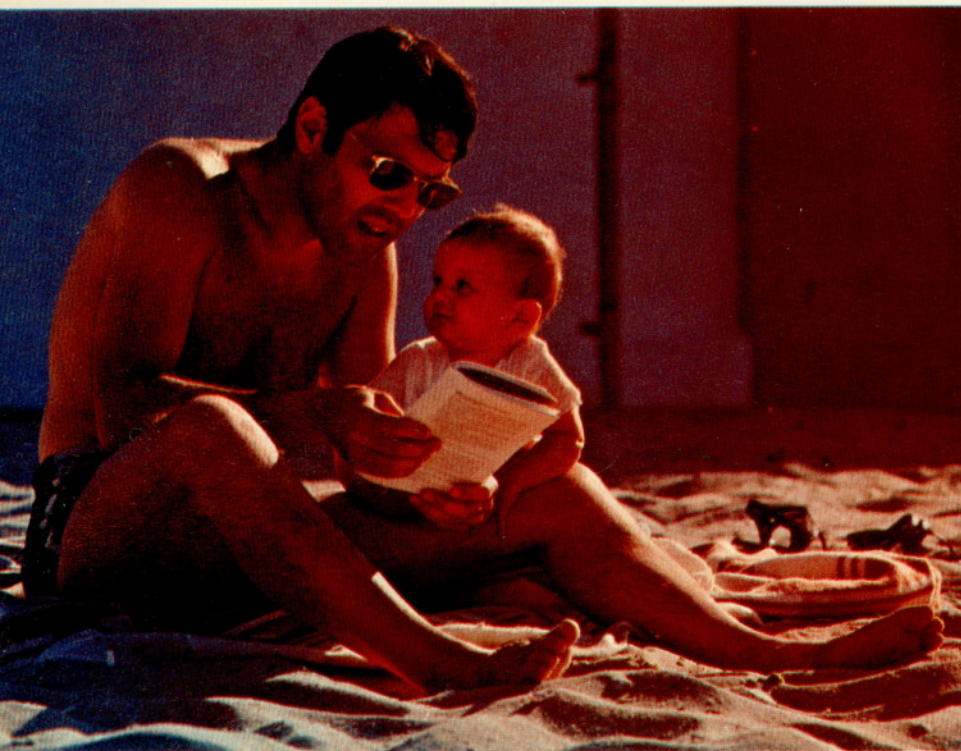


is necessary to increase the pressure inside the eustachian tubes to reestablish equal pressure. This may be accomplished in several ways. Giving the youngster something to suck on increases pressure (a bottle or a pacifier is ideal), but crying does the same thing. If these measures fail, one other thing can be utilized: Gently pinch his nose. This prevents outflow of air from the nose, increasing the pressure within the eustachian tubes and opening them.

To any parent, the sound of his child

The infant seat consists of a molded plastic seat with its own belt. It is secured to the aircraft by the standard general aviation aircraft seatbelt.

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On the beach at Martha's Vineyard, Mass., Daniel receives flight planning instruction from Dad on Customs regulations for entry into Canada.

crying is disconcerting. But in certain instances, and descending from altitude is one, it not only should be tolerated, it should be encouraged.

A few loud, shrill cries and Daniel was smiling again. His tubes were clear.

By the time we had reached our newly assigned altitude of 4,000 feet, we were instructed to descend again and maintain 2,000 feet. We recorded no further crying and landed with a smiling, happy boy.

The remainder of that first day was spent with friends, and a late departure was planned for the following day so that we would have more time with them. At noon, I called the FSS: ceiling 8,000 feet overcast, light rain showers. Improved conditions were forecast en route to Martha's Vineyard via Hartford, Conn., and Providence, R.I. Perfect weather for an IFR pilot. It was warm and no icing was anticipated.

We drove to the airport at 4 p.m., said good-bye to our friends, and reloaded the airplane. We were cleared as filed to Martha's Vineyard and were directed to maintain 7,000 feet. En route weather did improve, although rain showers persisted. Handoff to Otis Approach Control occurred just as we reached the border of the Massachusetts mainland. Shortly thereafter, we were cleared to a visual approach to Runway

06 on Martha's Vineyard. Because we were crossing 12 miles of water, we maintained altitude until half way, then made a more rapid descent than desired—600 fpm. This time, however, Daniel slept through it. As we taxied to the visitors' parking area, he awakened, smiling and content.

The following day the weather improved and we enjoyed four magnificent, clear, bright, sunny days on the beach at Martha's Vineyard before having to reload baggage, baby, and bulging wife for the trip to Québec.

Regrettably, we did not get as early a start from Martha's Vineyard as might have been possible; so, we decided to stop en route at Burlington, Vt. It is not a good idea to bounce a baby and a sometimes-sick pregnant lady in turbulent air, and other area airports were reporting those conditions.

By the time we arrived at Burlington the ceiling was 4,000 feet. Cumuliform buildups were reported throughout the remainder of the route. Québec was forecasting thunderstorms. Thus, we elected to spend the night in Burlington and see some of the picturesque, rolling New England country.

Northern Airways at Burlington provides extraordinary service to transient aircraft. Not only was the fuel truck

waiting before we turned off the master switch, there was also a courtesy car to take us to the main terminal and restaurant. Later, an attractive young lady made hotel reservations for us at a Holiday Inn and she also arranged for a rental car.

Since the forecast weather was to be similar to that of the previous day, we were up early the next morning and off the ground at 8 a.m. Daniel snoozed on departure and remained asleep until we began descent into the Québec terminal area. En route time was 1 hour and 40 minutes. Taxiing off the active runway we were instructed to proceed to the Customs gate. A courteous Canadian Customs official greeted us and expedited our arrival.

A 20-minute ride in an air-conditioned Lincoln Continental taxi through suburban streets delivered us to the magnificent Hotel Le Chateau Frontenac in Old Québec. Located high above the St. Lawrence River on the site originally picked by Champlain for his fortress, the hotel was built in stages and is a great structure. Eighteen floors high at the top, it affords an extraordinary view of the city.

Because of the hotel's location, the tourist is able to walk to many major attractions. Among the picturesque sites are the Citadel, the Plains of Abraham, some of the piers, and the waterfalls at Montmorency, which allegedly are higher than Niagara Falls but certainly not as spectacular.

Weather information in Québec is obtained from the Department of Meteorology, also called "The Met." Forecasts for periods in excess of 8 hours are unreliable; so, we were unable to plan a firm departure. On the day we anticipated leaving, a low overcast was present with considerable cumuliform buildup in all quadrants. We canceled our departure and stayed one more day.

Québec is situated in a valley surrounded by the Laurentian Mountains. The St. Lawrence River courses through the city and early morning haze and ground fog are the rule, rather than the exception. It usually burns off by 10 or 11 a.m., but from then on, cumuliform buildups prevail. Quebecans call them "T-Cu."

The following day we arrived at the airport at 8 a.m. and, despite a low ceiling, planned to depart. Canadian ATC cleared us as filed to Niagara Falls. The route would take us north of Montreal, over Ottawa, direct to Toronto, then southeast to St. Catherine's Airport, also known as the Niagara Area Airport, closest field to Niagara Falls.

On departure we eased through ground fog, then punched through a thin deck of stratiform clouds at 3,000 feet. We had filed for 8,000 feet and, well before reaching it, we were in crisp, clear, bright skies on top. A glance to the rear confirmed my thought—Daniel was asleep.

Although I have seen Niagara Falls many times, it becomes more impressive with each visit. By day, the falls cascade behind a curtain of mist. By night, blue and green and pink beams of light pene-

trate the misty drops and, like long, delicate fingers, play upon the falls as if they were keys of a grand Steinway, emitting exquisite sounds of elemental nature. The entire scene becomes a great concert hall, the delight of which is punctuated by many flashing cameras preserving moments of wonder.

Having enjoyed the beauty of Niagara Falls, we planned to depart the area the following morning. A phone call to Buffalo (N.Y.) FSS indicated satisfactory weather, with a high pressure ridge dominating the entire eastern coast.

We were at St. Catherine's Airport at 8 a.m. and filed to Dulles with an ADCUS. (advise Customs) advisory. N2951L was loaded with all our gear, plus souvenirs from our Canadian trip. Off the ground, we contacted Buffalo Departure Control, which agreed to permit a climb to 9,000 feet. We had filed for eight, but the layer of haze and clouds seemed to top at nine. I elected to go no higher because of one pregnant wife and one baby on board. Cleveland and New York Centers responded to my requests to alter course on several occasions to avoid towering clouds. But as we got into higher terrain over Pennsylvania, clouds were building. We ascended as high as 11,000 feet—for just a few minutes. Approaching the Washington area, descent was permitted to 9,000 feet. This put us in the tops of

some clouds, but I felt that was preferable to a higher altitude.

Many times I have contemplated the virtue of carrying auxiliary oxygen, but I have been unable to determine a practical way of making an infant or young child wear a mask for more than about 10 seconds. Thus, no oxygen and, generally, lower altitudes.

Handoff to Washington Center occurred as we encountered greater haze and smog, but fewer clouds. Happily, Center reported no cells along our route and controllers were able to vector us to an ILS approach to Runway 1R. The air was smooth. I studied the gauges while my wife kept a sharp eye out for the runway. It appeared as Dulles Approach Control vectored us to the localizer course, one mile from the outer marker.

We concluded an enjoyable trip by contacting Page Airways, which dispatched a Customs agent to meet us when we arrived. No delays, and we taxied to the ramp. Daniel registered his approval with a big grin.

Who said it couldn't or shouldn't be done? Nonsense! The comfort, convenience and flexibility of schedule that general aviation aircraft permit are impossible to get any other way. And, as for safety, we'll take it any day over driving.

Who says it *can* be done? Ask my pregnant wife, the pilot, and my smiling son. □

THE AUTHOR

Dr. Fermaglich is a licensed physician, board-certified neurologist and, besides his assistant professorship at Washington, D.C.'s Georgetown University Medical Center, he is a member of the Committee on Aviation of the American Academy of Neurology. He is also on the Committee on Aviation of the District of Columbia Medical Society and is an associate editor for the *Flying Physicians Association* magazine. Dr. Fermaglich holds a commercial license and has an instrument rating, plus he is an FAA-designated aviation medical examiner (AME) and a regional consultant to FAA. On the subject of transporting infants, Dr. Fermaglich said: "While the content of the accompanying article relates primarily to general aviation, it is equally applicable to commercial carriers. Interestingly, to my knowledge, no commercial carrier provides infant seats. Children on commercial carriers must be held by a parent, which is definitely hazardous, not only if an accident occurs, but also under circumstances of moderate to severe turbulence."

Getting The Family Airplane

Under-21 dilemma . . . how to break papa loose from the family plane

by CHUCK BANFE / AOPA 164119

■ So you've passed your solo. Perhaps you've just received a thumbs-up on your "Private." You might even have been granted the license without a single repeat maneuver and your instructor could have told you that you do a good flying job. Still, *your parents shake their heads when you ask to borrow the family aircraft.*

What can you do to change their minds?

First, the problem is not yours alone (and it is getting larger each year). More than one-third of the population of the United States is under 21 years of age. Less than 1% own aircraft, which means they have to beg, borrow or pay to fly.

You have to start out by understanding your family's position.

Your home is your parents' most expensive possession. Second on the list is the family aircraft. This means that its loss could have dire results because of this enormous investment.

Forgetting the obvious problem of wiping out the aircraft (and perhaps you), there are added operating costs

which go with inexperience. Early birdmen are not well tempered to read and interpret pressure and temperature gauges. The lack of proper action at the proper time can cause extensive internal damage. The neophyte pilot who uses takeoff power too long, cruises in "rich" instead of "lean" inadvertently, rides the brakes hard, and makes other minor operating mistakes can add measurably to the operating cost.

Consider that insurance premiums increase almost unbelievably for low-flight-time or teenage pilots. The burden of paying extra premiums under these conditions must be considered.

An FAA certificate by itself is not enough reason to expect your parents to open the hangar door to you. You will have to fly with them and show that you have all of the rudiments of flying well accomplished. Your parents will be harder on you than the FAA-designated flight examiner. Not only will you have to perform in the air, you will have to show a deep interest in the family plane.

Take obvious pride in the family air machine. Keep it clean without being told. Wash it, even polish it, *before* the weekend. Take tangential opportunities to display this personal interest, such as noting articles in magazines and newspapers for your dad.

Know the family airplane manual from tail to prop hub. Memorize the power settings; the configuration airspeeds; *and the limitations.* Keep a pocket notebook with pertinent data.

Before you make a trip with your family, *you* make the walkaround. Cover

every item noted in the manual. Show your dad how thorough you are.

File a flight plan. Make one out with all of the checkpoints and Estimated Times Overhead (ETO). Keep a navigation score of the flight. Be sure to close out the flight plan. Have the tanks topped and note how much fuel was used. Put that in your records.

Ask your father if you can keep an "Operating Record" of the family aircraft. Taking all of the costs, work out the cost per mile, per hour, and per hour for maintenance.

Ask your father questions about the aircraft. (Never criticize his flying. It is easy to second-guess a pilot because most decisions are the amalgam of many factors; one is experience, which you probably lack at this time.)

When the great day comes that your taking the aircraft is a *happening*, you have serious responsibilities. One of the hardest is to ask if you may pay for the fuel. Predicate your flying on paying these costs and it may become a regular affair.

When you land, clean up the aircraft and top off the tanks. Make certain that it is properly chocked, locked, and tied down. Give your parents a debriefing of the flight. If there are any maintenance items which should be attended to, have them noted in your book.

By following these techniques, not only will you enhance your chances of getting the family airplane but you will be building up to regular flying. From all of this, you may become a better pilot, too. □