

Emergency Maneuver
Training Broadens
Your Skills and Expands
Your Safety Margins

Fighter Combat International

by Stan Smith

The last time I flew with a Canadian F-18 pilot, I was maneuvering at 390 knots and 300 feet AGL over the barren landscape near Cold Lake, Canada. I was piloting a B-52H with my crew of six and the Canadian was rolling out on our “six” for the kill.

Escape may have been nearly futile,

but the experience was exhilarating and memorable. While I will forever maintain that we successfully evaded our mock adversary, it was not a good feeling knowing our chances of survival were minimal with that guy behind me. It was also not consoling knowing that our “friend from the north” in the F-18 was a well-trained, highly capable fighter pilot.



My latest adventure with a Canadian Air Force-trained F-18 pilot was in some ways the same, yet different. It was the same rush of adrenaline; but this time the Hornet pilot was sitting in the tandem seat behind me. Not an adversary but rather an instructor.

His name is Paul "BJ" Ransbury of Fighter Combat International (FCI) and this day he was instructing me through Emergency Maneuvers Training in an Extra 300 fully acrobatic airplane. This day, I could not have been happier that F-18 pilots spent so much of their time inverted.

FCI Teaches Recognition, Avoidance & Recovery

BJ is the president and founder of FCI, located at Williams Gateway Airport (KIWA) in Mesa, Ariz., and on a beautiful March day I had the pleasure of flying with BJ so he could demonstrate to me FCI's Emergency Maneuver Training (EMT) program. Although I would

only get to spend half a day at FCI, BJ would introduce me to their program and we'd take the Extra 300 through most of the maneuvers that students have the opportunity to master in the EMT program.

The primary focus of FCI's Emergency Maneuver Training is the recognition, avoidance and recovery from unusual flight regimes. They offer several programs to include: a three-day (five flights) initial; two-day (four flights) recurrent; and one-day (two flights) spin mastery course. They will also customize programs to meet customer needs.

The program includes training in stalls and approach to stalls, over-bank situations, general and wake turbulence recovery, nose high and low unusual attitude recognition and recovery, basic and advanced spin avoidance/recognition and recovery, slow speed maneuvering with minimum altitude loss and terrain avoidance,

control failure, engine-out recovery, and inverted flight recovery. Integral to the training are basic aerobatic maneuvers like aileron rolls, loops and inverted flight.

FCI operates two Extra 300L aircraft. The 300L is similar to the 300 except it has a lowered wing for increased visibility and all composite sides and belly panels. Powered by a Lycoming AEIO-540L1B5, 300-horsepower, fuel-injected engine with a three-blade constant speed prop and a gross weight of 2,095 pounds, the airplane has ample power. But, the real advantage of the Extra for emergency maneuver type training is that it is a fully acrobatic airplane with no prohibited maneuvers and capable of withstanding +/- 10 G's.

Flying the Extra means that the limiting factor is the pilot. If the pilot has the skills to recover the airplane, then all is well. So even if the skills are lacking in the front





seat (that's where you and I sit) your FCI instructor in the back seat has the situation well in hand. You don't have to worry about overstressing the airplane. As the student you can relax, enjoy the ride and concentrate on learning.

All 14 instructor pilots at FCI have their roots in the military fighter community. Twelve of them flew F-16 Falcons and two (including BJ) flew the F-18 Hornet prior to entering the civilian world. They all adhere to a standardized training program and followed an approved syllabus when instructing.

Walking into FCI is like stepping into any respectable fighter squadron. The "crud" table and bar in the main common room will put any ex-military pilot at ease. Overlooking the flight line at Williams Gateway the FCI facility commands a great view of the airport, Sonora Desert, and practice area 10 miles to the east.

Adjacent to the common area are several "briefing rooms," and this is where the real business begins. The format is consistent with my U.S. Air Force flight training 23 years ago. We will discuss in detail what we are going to do, we will go do it, and then we will return to this room and discuss what we did and how we can improve next time we do it.

The ground school phase begins with a Power Point lesson plan. You will review aerodynamic theories, physiological effects of flight and the maneuvers you will perform in the Extra 300. This is a great review for all pilots and probably a first-time introduction for many civilian pilots.

But, the most powerful advantage of the ground training is the instructor and your ability to interact one-on-one. The discussion will build on your level of knowledge and experience. This is a rare opportunity to sit down and pick the brain of a pilot who truly understands aerodynamics and has been explaining aircraft flight characteristics to pilots for years.

The Flight

Following an extensive pre-brief to include a short video on the use of the parachute we headed for the airplane. BJ accomplished the walk-around while I strapped in the front seat. I expected the cockpit to be more cramped, but found it adequate for my 6 feet and 185 pounds (okay, 190 pounds). In no time we began to taxi, the run-up was complete, and we were airborne. At 200 feet AGL BJ gave me the airplane and we turned east for the practice area climbing to 5,000 feet AGL.

The purpose of our 1.4 hour flight was for me to get a sample of the training and maneuvers that students attending initial and





recurrent EMP training can expect. With that, we began basis coordination exercises, slow flight and steep turns. As you would expect with a roll rate of 400 degrees per second, the Extra is a very responsive airplane. Since I am more accustomed to the roll rate of a C-5 Galaxy at about 1 roll per 400 seconds, I was a little apprehensive about over-controlling the machine.

Add to that the fact that I had not flown an airplane with a stick in a very long time, I was very happy to find after a couple of minutes I felt confident that I could make the airplane do what I wanted. The next question was, would I know what I wanted the airplane to do as we move into the more advanced maneuvers? The answer was yes and the majority of the credit goes to the format and quality of the instruction.

We began with some basic aerobically configured maneuvers including aileron rolls, loops and inverted flight. BJ explained that these basic maneu-

vers are used as building blocks for more advanced maneuvers as students progress through the program. They help you gain attitude recognition and build your confidence in maneuvering the airplane.

Next we moved into a series of stalls. BJ would demo a stall and the airplane would perform exactly as he had pre-briefed an hour earlier. Then I would give it a try and he would discuss any variations, critiquing my recover technique.

During traffic pattern stalls BJ used the opportunity to elaborate on part of our pre-flight briefing discussion. I had mentioned that when I fly the C-5, I often apply bottom rudder to help me through the final turn in an overshoot situation. He demonstrated the dangers of skidding in the final turn and convinced me that I need to re-evaluate my technique.

Following stall recovery, we performed normal upright spins. I had not spun an airplane for some

time, but I was happy to find that the spin picture and recovery was as expected and I was able to improve my technique with practice. Next we tried an inverted spin. If you have never been in an inverted spin there is only one way I can describe it – WOW! It's a three-ticket ride!

Part of the EMT program is recovery from unexpected/wake turbulence. I have met several pilots who have inadvertently encountered wake turbulence that rendered them fully or semi-inverted. The Extra is a great airplane to simulate this phenomenon due to its fast roll rate. The instructor will begin an aggressive roll in either direction and then give you the airplane. Even though you are expecting to be "upset," the roll rate prevents you from comprehending your attitude until after you get the airplane. You must then evaluate your attitude and recover appropriately.

We also looked at the spiral dive or "death spiral" (believed by



many to be the final cause of the tragic death of JFK, Jr., his wife and her sister) and learned how easy the recovery can be once you recognize the situation. This maneuver is very disorienting largely due to the increased G's as the turn tightens. Once the aircraft is unloaded the G's disappear and recovery is easy.

This brings me to an important point. I have been practicing unusual attitude recovery in simulators for many years. I think simulators are fantastic tools. However, no matter how sophisticated any simulator might be, it can not replicate the G's (and disorientation) a pilot encounters during the entry or recovery from upset flight. Simulators are useful for learning recovery "procedures," but they are only a piece of the puzzle. The other piece must be learned in an aircraft.

We finished up our time in the area with some fun aerobatic maneuvers like hammerhead stalls and a tail-slide before heading back to Williams Gateway for a high-speed pass and closed pattern to a full stop. After extracting myself from the front seat we returned to the briefing room to review the flight. Your instructor will recall every nuance of the flight and recommend means for improvement.

But in case he has forgotten how great you did during any specific maneuver, there's the added bonus

(of this unforgettable day) that the entire ride is videotaped.

Four cameras are strategically mounted on the airplane. Following the flight, student and instructor can review each maneuver in detail. You get to keep the tape which includes high-quality audio so in the future you can watch listen to the instruction as it occurred, recalling those important details that we all seem to lose with time. It's a great learning tool for years to come and besides that – it makes for a very cool memento.

For non-pilot friends or spouses who want to join the fun, FCI offers "Extreme Aerial Adventure" flights where they can experience flight in the Extra 300 with a FCI instructor pilot. They can enjoy single ship flight or simulated air combat mission.

Broaden Your Skills

BJ and company have developed a top-notch program, the like of which every pilot should attend. Completion of Fighter Combat's Emergency Maneuvering Program can qualify as your Biennial Flight Review. They also offer a CFI Spin Endorsement Profile for those pilots interested.

As pilots we spend many hours trying to hone our skills and broaden our flying experiences. But experience doesn't just mean time sitting in your cockpit. It means enhanced training above

that required by the FARs. Companies like Fighter Combat International offer general aviation, corporate and airline pilots an outstanding opportunity to broaden their flying skills and possibly save lives.



Stan Smith is the director of flight operations for Guardian Jet, LLC. Smith has more than 19 years of flight experience encompassing corporate, military and airline flying. An ATP, CFII, MEI, FE, and C-5 Instructor Pilot in the USAF Reserve, he holds type ratings in the CE-525, CE-550, EMB-120, SA-227 and B-737. Smith directs the Guardian Standards Program, which provides Initial Operating Experience (IOE) and Recurrent Standards Flights as part of a wide range of consulting and oversight services to the light jet owner. To learn more about the Guardian Standards Program and other ways to enhance your ownership experience, contact Smith at (203) 467-2500 or www.GuardianJet.com.