# Fear of Flying Help Course

www.fearofflyinghelp.com

***The World's Most Popular Way to Overcome the Fear of Flying!***

Now Available Online Free of Charge!



In conjunction with this print-out be sure to visit **www.fearofflyinghelp.com** to experience the videos, sounds, and photos. Upon completion of the online course you will have an opportunity to gain access to a special **Bonus Webpage**. A page full of additional resources designed especially for my **Fear of Flying Help Course** graduates!

This course will instill a new respect for the aviation industry and should allow you to feel a sense of security on the airplane. Nothing is 100% perfectly safe. I won't kid you, incidents do happen, but they are very, very rare. As you will see, the people in aviation are working to make sure that flying continues to get even safer.

## DISCLAIMER

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I am NOT a licensed therapist or counselor. If you have a significant underlying problem in your life that you think might be a contributing factor in your fear of flying, may I please ask that you seek professional help. This course is not a substitute for in depth therapy or counseling.

# Lesson 1

## Fear

"*The only thing we have to fear is fear itself."*

- President Franklin D. Roosevelt

President Roosevelt spoke those words during his presidential inaugural address of 1933. He was hoping to get people to regain some confidence in the depressed economy of the time. It is a catchy sounding phrase. But what does that have to do with your fear of flying?

Fear is a powerful emotion. It can even influence an entire nation's economy! You have made an important first step by acknowledging your fear. You may feel frustrated by the fact that your fear of flying adversely affects your life and limits your freedoms. And I bet you also know, deep down, that it is something you can control or overcome with a little help. To do this the first step will be to look at fear in more detail.

**Here in Lesson #1, you will learn:**

- Why do you need to know about fear?
- What is fear, and what causes it?
- What kind of fears are there?
- What are the reactions to fear?

No matter what your concern with flying is, this is a very important lesson. Please read carefully and pay attention! This first lesson is the foundation. With each lesson we will build towards a complete strategy for helping you with your flying fears and anxieties.

**Why do you need to know about fear?**

Fear is often a significant obstacle in our lives preventing us from achieving many things. If you were to look closely at what motivates us you may find that fear frequently plays an important role. In our world fear seems to be epidemic. We fear change, we fear stagnation. We fear failure, we fear success. We fear dying, we fear living. We fear crowds, we fear loneliness.

Fear affects our lives in so many ways; it sure would be nice to have some control over it. I don't know that fear is so much a psychological issue as an educational issue. This may be a relief to those that thought something must be "wrong" with them.

*"Dear Captain Stacey, for the first time in 30 years I was able to get on the plane and feel comfortable. I am usually curled up in the fetal position, crying, shaking, and waiting for the plane to go into a nose dive. Reading your course has made me realize that a plane is safe and I could 'sit back and enjoy the ride'!"*

If you could learn more about unfamiliar situations and become convinced that you could handle those situations the fear would naturally subside. In order to help you in dealing with your fears you must first learn about fear. It's kind of like that saying, "To conquer your enemy, you must

know your enemy". This military doctrine readily applies to your enemy, unwanted and untimely fear.

Before we go off to battle let's prepare ourselves. Let's learn more about fear. What is fear? What are the kinds of fear? What causes fear? What does fear feel like and how do we react to it?

**What is fear, and what causes it?**

Fear is the involuntary emotion we feel when we perceive (think) that we are in danger, or when we believe something bad is about to happen to us. The emotion of fear is felt because of hormonal and chemical responses sent from the brain. Whether or not the threat is real it is our perception or belief in the threat that triggers our fear.

Our fear is real. Our emotion is real. Our perception is real. Is the threat real?

Have you ever been surprised by someone in the dark in your own home? You round a corner and "BOO!" You suddenly experience the emotion of fear. Your heart races and breathing quickens as you fear for your safety. You think an intruder is about to harm you. Then you find to your relief it is only a friend or family member. For an instant you perceived a danger, but once you learned more about the danger your fear quickly disappeared.

Fear acts as our defense mechanism. As one of the most basic human instincts, fear prepares us to fight or flee. Fear is actually a good thing because it is responsible for our self-preservation. Do you think you would be alive today if it weren't for fear? I know I probably wouldn't last long as a pilot if I didn't have a good healthy appreciation of fear...

*"I'm not afraid of that thunderstorm. Let's just fly right through it!"*

-or-

"I'm not scared to eat airline food!" (Just kidding, some of it is pretty good.)

But, if I had too much fear that wouldn't be so good either...

"Ahhh... ladies and gentlemen, this is your Captain speaking. I'd really like to be able to tell you the name of the city we are flying over, but I can't stand the thought of looking down from my window. Do you have any idea how high up we are?!?"

Ok. So we know our fear is real. We know our fear can be good. We know we must have some fear in our lives. Wouldn't it be nice to have just the right amount of fear at the right times. We are not going to eliminate our fear. We are not going to eliminate our emotions. We are going to have to change our perception of the threat. That's where education (this course) comes in. We need to know (perceive) when a situation is dangerous or not.

**What kind of fears are there?**

We have learned what fear is. It is the emotion we feel when we perceive we are in danger. Now let's take a look at some definitions of fears. We will also look at some by-products of fear, anxiety.

**Fear of Separation and/or Loneliness** - This is the most basic fear and it includes fear of death (The "mother" of all separations!). Our culture teaches us to fear being alone. Obviously, when

we travel (fly away) we are separated and that can get lonely. I know, having spent many a day in a hotel room missing my family.

**Fear of the Unknown** - This fear accompanies change, growth, and any new endeavor such as flying. You will become much more familiar with this endeavor called flying in the next few lessons.

**Fear of Pain** - Physical, mental, emotional, or spiritual pain can be imagined or experienced and then feared. This is the fear that gets my attention, especially the physical! But it is the mental, emotional, and spiritual pain that is hardest to conquer.

**Fear of Loss** - Loss separates us and leaves us open to feeling lonely and vulnerable. Many fearful fliers developed their fear in their twenties or thirties. As we get older many of us have new families that we care about. When we fly off and leave our young children or spouses behind we may feel afraid that something may happen to ourselves or our loved ones. We fear we will never see them again. Also, as we age we become more aware of just how fragile and dear life is. The older some people get the greater some of their fears get.

*"I am writing to tell you what an enlightening experience I had taking your online course designed for fearful flyers. I've flown since I was barely able to walk, yet somehow experienced a tremendous onset of fear in my early twenties. There was no trigger for this irrational fear, and it was extremely frustrating for me to have to deal with something so ridiculously traumatic. I have an upcoming flight in the next couple of weeks, and I just couldn't stand putting my family and young son through another one of my panic attacks while onboard the aircraft."*

**Fear of Heights** - This is a common and sometimes rational response to help protect us from harm. According to many psychologists there are two natural fears that we are born with, the fear of loud noises and the fear of heights. However, experiencing an intense fear of heights while inside a safe environment such as an elevator or airliner is not a helpful response. Besides, nearly everyone reports that there is no sensation of height when looking out an airplane window. The perception of height just doesn't look real.

The fear of heights is usually a combination of the fear of falling (a natural fear) and the fear of losing control. For example, if you are standing near the edge of a high place, such as a cliff or on the roof, you may picture yourself falling over the edge and how horrifying the falling experience would be. Your mind then races and goes into panic mode. You then fear you will lose control of your actions, resulting in the very thing you pictured happening - falling. This fear of losing self-control causes you to not trust yourself to be near high places. It is your vivid imagination which starts this cycle.

**Loss of Control** - This fear is a biggie! We all like to feel we are in control of our lives. We exercise and eat right to try to control our health. We build fences and walls around our property to try to control our space. We want to be in control. But when we get on a plane we have to sit down, shut up, and keep our feet off the seats! You may say, "Who's driving this thing? I hope he knows what he's doing; cause I'm stuck back here and there's nothing I can do."

By the way, guess who are the biggest control freaks? Yep, that's right, pilots! It comes with the job, we have to be in control.

**Claustrophobia** - Another control issue is the feeling of being cornered, trapped, or not having an easy escape route. It is a learned response to being in certain situations.

If you become afraid on a plane your defense mechanism triggers you to want to "fight or flee". On a plane you know you can't physically fight or run away, so this can bring on the added fear of becoming afraid and losing self-control.

You might dread the moment when the aircraft door shuts and you feel trapped for the duration of the flight. Many people report experiencing this concern, but the techniques learned in Lesson 4 can help you overcome this anxiety. Remember, claustrophobia is a learned response, and you can learn to overcome it.

**Anxieties**

There are several major types of anxieties each with its own characteristics.

**Generalized Anxiety** affects people who have recurring fears or worries, such as about health or finances. They often have a persistent sense that something bad is about to happen. The person finds it difficult to control the worry. The fears and worries are very real and can often result in the following:

- Irritability
- Muscle tension
- Sleep disturbance
- Becoming easily fatigued
- Restlessness or feeling on edge
- Difficulty concentrating or mind going blank

Everyone gets worried sometimes, but if a person stays worried, or fear the worst will happen, it is hard to relax. Dwelling on the "what ifs" doesn't help. If a person learns to see situations in a different perspective and learns methods and techniques to control the anxiety, generalized anxiety can be dramatically reduced.

**Panic Attack Anxiety** involves sudden intense and un-provoked feelings of terror and dread. People who suffer from this anxiety generally develop strong fears about when and where their next panic attack will occur, and they often restrict their activities as a result. Panics attacks often occur as the result of a period of intense worry or stress or disruption of one's lifestyle.

People often are more afraid of the actual panic attack than they are of specific events. For instance, their 'fear of flying' is not that the plane will crash, but that they will have a panic attack in a place, like a plane, where they can't get to help.

Many people are greatly helped by simply understanding what a panic attack is and how many others suffer from it (one out of 75 people). Many people worry that their panic attacks mean they're 'going crazy' or that the panic might induce a heart attack. Changing one's way of thinking helps people replace those thoughts with more realistic, positive ways of viewing the attacks.

It also helps to break a fearful situation down into small manageable steps. Relaxation techniques can further help. These techniques include breathing retraining and positive visualization. Experts have found that people prone to panic attacks tend to have slightly higher than average breathing rates. Learning to slow this can help someone deal with a panic attack and can also prevent future attacks. Using a support group (my Message Board) can also be very helpful, but please continue on with the course!

**Specific Anxiety** may involve things such as encountering certain animals (i.e. snakes or spiders. Ack!), or flying in airplanes. Whereas social anxieties involve fear of social settings or public places.

**Post-Traumatic Stress Anxiety** can be caused by a severe physical or emotional trauma. Thoughts, feelings, and behavior patterns can become seriously affected by reminders of the event. Sometimes this can last for years after the traumatic experience. The impairment of one's ability to function in social or family life can result.

Education, group therapy, and exposure therapy are known to help with Post-Traumatic Stress. Repeatedly reliving the frightening experience under controlled conditions can help a person work through the trauma.

*"Dear Captain Stacey, before the September 11th terrorist attacks in the US, I only had a normal fear of flying. Afterwards, I was terrified. However, after reading your course I feel so much more excited about our adventure. Before, this was always clouded by the worries of the flight, but you have explained everything so clearly."*

We have learned that there are many forms of fear. Each fear is caused by different situations. Just remember that basically fear is meant to protect us. That is how we are programmed.

Hopefully, when confronted with fear, you will be able to identify and deal with it in a more positive way. Understanding the different kinds of fear should help you to do this. And, later in the course, you will be given specific techniques ("Support Package") to help control your fear and deal with your anxiety.

**What are the reactions to, and symptoms of fear?**

You are probably familiar with at least some of the symptoms on the list below. We all are. They are a natural reaction to fear. Many of them are simply ways to prepare your body to fight or flee in response to a perceived threat. If you are going to fight for your life you are going to need a racing heart and heavy breathing. Fortunately in our world we don't often have to fight for our lives, but tell that to our fears! So again, the symptoms may feel uncomfortable, but they have been necessary for our species survival.

**Physical symptoms and reactions to fear may include:**

- Racing heart
- Heavy breathing
- Tightness or pain in chest
- Trembling
- Shortness of breath
- Headache
- Tingling in finger tips
- Muscle pains
- Muscle weakness
- Dizziness
- Difficulty in swallowing
- Abdominal discomfort
- Irritability
- Anger
- Rudeness

Now I bet you can sympathize with what the Flight Attendants have to put up with? How would you like to deal with a plane full of that! No wonder "air rage" is all the rage!

The thing to remember when you feel these reactions and symptoms of fear is that they may feel uncomfortable, but they won't physically hurt you. You will not lose control, faint, or have a heart attack. You are just experiencing some good healthy fear. Just as your body intended!

*"Courage is resistance to fear, mastery of fear -- not absence of fear."*

-- Mark Twain

**Summary**

You have learned that your fear is a very powerful force. Your fear is actually an important necessity in your life to protect you. Your fear is just the result of how you perceive a situation to be threatening or dangerous.

Ideally, you want your fear to kick in at the right time, and at the right level (Don't panic). You need to educate yourself about flying so that you know that there is nothing to fear.

In the next few lessons you will learn a lot about flying and the aviation industry. You will be assured that flying is safe! Then you will learn proven methods to overcome and ease your fear and anxiety.

So let's not be afraid of fear itself. Let's only be afraid of real danger! Does that sound good to you Mr. Roosevelt?

# Lesson 2

## The People Who Work in Aviation

*"Our motto, Safety Above All"*

- National Air Traffic Controllers Association

Welcome to Lesson #2. Here we will take a "behind the scenes" look at the people in aviation. It would be difficult for you to feel comfortable flying if you didn't have confidence in those who were responsible for your safety. Rest assured, the people in the airline industry are highly skilled and meticulously trained professionals who perform their jobs to the highest standards.

We will be looking at how the FAA is responsible for overseeing the aviation industry. How air traffic controllers are trained to coordinate the many flights, the training and certification of aircraft mechanics, and finally, we will examine the rigorous requirements of the pilots.

At times I will go into detail regarding an aviation professional's length of training, or hours of experience. The details will be presented in small, teal colored font. If you are not interested in these details, feel free to just skim over them. It is not important that you learn these detailed numbers and facts. It is only presented to demonstrate just how demanding these job requirements are.

*"Captain Stacey, I did some research on fear of flying and ended up on your website. Boy, was I glad. Now I really have a good understanding of all phases of flying ie: pilots, mechanics, aircraft, weather, communications, etc. I feel so much more relaxed and ready to enjoy the flight. I will write back when we return from our trip to let you know how it went. However, I now have such a positive mindset that I expect the trip to be no less than great!"*

After completing this lesson you will have the confidence required to ease any fears or concerns about the human element of the safety equation.

Here in Lesson #2, you will learn about the job of:

- The FAA
- The Air Traffic Controllers
- The Mechanics
- The Pilots

**The FAA**

The FAA is responsible for insuring the safe, efficient, and secure use of our entire aviation system. The FAA is also responsible for the certification and inspection of airline operations, workers, the security of our airports, and for our nation's air traffic control system.

The FAA monitors every aspect of aviation. They perform routine and surprise inspections looking at every detail of an airline's operation. They observe and inspect airline workers in their day to day operation and all paperwork including log books and manuals.

**Some of the areas they put under their microscope are:**

- Aircraft
- Cockpit Crew
- Cabin Crew
- Ramp Area including De-icing
- Airline Stations
- Airport Security
- Air Traffic Control
- Maintenance Facilities
- Dispatchers
- Airline Operations
- Airline Training

And they don't mess around. The slightest slip up and it's BIG trouble!

The FAA has authority to issue civil penalties of up to $50,000. An air carrier is subject to a penalty of up to $11,000 for a single violation. There is no limitation on assessments for violations of the Hazardous Materials Transportation Safety Act or the Hazardous Materials Transportation Regulations.

Certificate suspensions or revocations are issued to discipline an alleged violator and to deter others similarly situated.

Believe me, the FAA does a great job in keeping everybody highly motivated to do the absolute best and safest job possible. Almost as if our life depended on it! (Which of course, it does)

Here's what "top cop" FAA Administrator, Jane Garvey has to say on the FAA website.

*"The FAA is committed to making the world's best aviation system even better. We are doing this by enhancing safety, improving security, and increasing the efficiency of air travel by modernizing the air traffic control system and expanding the capacity of our nation's airports."*

While I was reading up on the FAA, I saw that they also are responsible for helping develop commercial space transportation. (Oh great, now I guess I'll have to get working on a new Fear of Space Flight Help Course!)

**The Air Traffic Controllers**

You probably knew of the controllers working in airport control towers. But many of these professionals work in en route control centers and terminal radar approach controls that few individuals even see or are aware of.

Air traffic controllers insure the safety of nearly two million aviation passengers per day - or almost 700 million people per year. Air traffic controllers use their skills and judgment to help safely direct aircraft to their destinations. Air traffic controllers are highly trained and trusted professionals.

Once you complete this course you can link to live tower to aircraft radio transmissions at Dallas/Fort Worth International Airport and approach and departure communications in the Chicago O'Hare area from your Fear of Flying Help Course Bonus Webpage.

There are several ways to become an air traffic controller. Many are trained while in the military. After their term, the FAA can hire them. If not a part of the armed forces, civilians attend one of the 14 colleges the FAA recognizes that give degrees in aviation administration with an emphasis in air traffic control. Graduates from the acclaimed colleges then go on to the Federal Aviation Administration Air Traffic Control Academy.

After the FAA hires them, an intensive training process begins. If you are interested, the details of the training are presented here:

Controllers begin training as an air traffic assistant. This part is known as the A-Side of the process. As the assistant, training consists of two weeks of preparatory class and on-the-job-training. Controllers then begin three to six months of "seasoning", which is performing the duties they were trained for.

After successful completion, controllers go to D-School. This schooling entails classroom and simulator training for eight weeks and on-the-job-training for three to nine months, followed by certification and seasoning.

Once certified on the D-side, controllers season for as long as a year before proceeding to R-School. Now enrolled in R-School, the controllers attend classroom and simulator training for eight weeks. After finishing of all of the training, controllers are certified, but only for the area of specialization in the facility where they were trained. En route control centers have four to eight areas of specialty. If a controller wishes to transfer to a different location this process begins again, which takes nine to 18 months.

After graduating from the academy, controllers are assigned to different towers and centers around the nation.

Air traffic controllers take their responsibility to safety very seriously. It is a high stress, demanding job. Here's what they have to say on the National Air Traffic Controllers Association website:

*"NATCA is very proud to represent not only the interests of our membership, but the safety interests of the flying public, as well. Our motto, Safety Above All, is the litmus test against which all our decisions are based. We continually strive to improve and enhance aviation safety, and we proudly provide the safest air traffic control system in the world."*

I personally have the greatest respect and admiration for air traffic controllers. I have witnessed many times the fine job they do for all of us. They not only coordinate aircraft traffic, but provide a kind of a "big picture" to back up our flights. Although pilots are responsible for avoiding weather, controllers help provide critical information and act as just one more redundant safety system for our flights.

**The Mechanics**

It has been a quite a few years, but for a short while I worked as an aircraft mechanic in order to pay for flying lessons. During that time I became familiar with the fine people who service our planes. To this day I am still friends with many of them. I can say without reservation that this group of professionals takes the utmost pride in their work. They take their responsibility for safety very seriously. Never will you see an aircraft mechanic settle for a "quick fix". The FAA wouldn't allow it. His supervisor wouldn't allow it. His peers wouldn't allow it. And his conscience wouldn't allow it.

To become an aircraft mechanic requires, you guessed it, a lot of training and actual work experience.

The FAA requires at least 30 months of experience working with both engines and airframes. Completion of a program at an FAA certificated mechanic school can substitute for some of the work experience. Applicants for all mechanic certificates also must pass written and oral tests and demonstrate that they can do the work authorized by the certificate. To obtain an inspector's authorization, a mechanic must have held an Aircraft Mechanics certificate for at least 3 years.

FAA standards require that certificated mechanic schools offer students a minimum of 1,900 actual class hours. Courses in these trade schools normally last from 24 to 30 months and provide training with the tools and equipment used on the job.

Aircraft mechanics do careful and thorough work. They have a high degree of mechanical aptitude, are self-motivated, hard-working, enthusiastic, and able to diagnose and solve complex mechanical problems.

I often take the opportunity to observe them working on my aircraft. I know they do it right!

**The Pilots**

**What makes a good Airline Pilot?**

Some people argue the merits of a civilian vs. military background. During my career I have flown with all types of pilots with backgrounds in all types of aircraft. Some first learned in small general aviation planes. Others, before coming to our airline, flew high performance aircraft such as F-4's, F-18's, SR-71's, and even the Space Shuttle! But the one most important ingredient in a pilot would have to be the love of flying.

As with any pursuit it is the passion for something that drives you to learn and perform at the highest levels. Later in this course you will discover that one of your assignments is to go to the cockpit on your next flight. After chatting with the pilots you will see that they do love flying airplanes.

**Ok. So what are some characteristics of a good Airline Pilot?**

- Self confidence
- Qualities of leadership
- Calm, unflappable and well balanced
- Capable of thinking and reacting quickly and decisively
- Considerable technical skills
- Good communication skills
- Good physical condition
- Team-player
- Well educated
- Extensive flying experience

**What type of job is it to be an Airline Pilot?**

Airline pilots are typically away from home quite a bit. We often have to work holidays, and weekends. This type of lifestyle can be fun and exciting, but it can be hard on family life (and dogs, too!).

**What are the duties of an Airline Pilot?**

A pilot's duties start at least one hour before take off when we meet to receive preflight information and briefing. We then go over flight plans based on weather, temperature, wind-speed, weight on take off, etc. We check fuel requirements, instruments, electronic, normal and emergency equipment.

During flight we make announcements to keep passengers updated on progress, weather, and other details. In cruise the autopilot is normally engaged. But for take off and landing we like to handle the plane ourselves. We do this to stay proficient in the thing we love to do most, fly. We also make routine checks on all the operating systems. We follow instructions from air traffic control, to which radio contact is maintained from start of taxi to gate arrival.

After completion of the flight and the parking checklist is finished we make out an arrival report which includes fuel burned and flight times. We fill out the aircraft log book noting any mechanical discrepancies and we notify maintenance. And if everybody hasn't left yet we say "Ba-bye" to the passengers. ("Ba-bye" is technical aviation lingo for "Thank you for flying with us. We hope you enjoyed your flight. Come back soon. Have a nice day!")

All procedures are routinely accomplished by reference to checklists. We accomplish each item one step at a time in a very organized manner. Each of us is trained to do our duties in a standardized format. We can fly with a pilot we have never even met before and we will be able to work together knowing what to expect from each other. It is as if we had flown with each other for years.

**What about training?**

Right from the beginning training is long, demanding and costly. Airline pilot applicants normally don't even bother to apply to a major airline until they have accumulated a number of pilot certificates, ratings, years of experience, and thousands of hours in complex aircraft.

Flying for a major airline is the best job in the world. You will find only the most qualified and skilled professionals in the cockpit of commercial airliners. The competition is fierce. Nowhere is there a better collection of fine pilots. Only a select few are chosen to interview and attend a careful screening process.

Those who make it that far are put through further training courses upon joining the airline. Such training in fact never ceases throughout their career. They will have to retrain and attend refresher courses for each new aircraft type they fly and have to show regularly that they are competent and fit to fly. This includes oral, written, simulator, and real aircraft flight checks by both company Check Airmen and FAA Inspectors. It's a life of train and retrain, check and recheck, test and retest.

**How about medical requirements?**

Tests, tests and more tests! Every six months it's off to see the FAA medical examiner. Vision, hearing, reflex, EKG, urine, and drug tests, and some other tests I'd rather not talk about. Also, we can't take any medication or prescriptions without prior approval.

As you can see everything that can be done is being done to insure you have the best, most qualified people in the cockpit.

**Summary**

The FAA insures your safe and secure flying experience by monitoring, inspecting, drug testing, and certifying the people who work in safety related areas of aviation. Aviation is "black and white". There are no "maybes". Either it is 100% safe, or we don't do it. You may have heard the saying, "Safety is no accident".

There is also a natural tendency for each worker to not only take pride in his or her own work, but keep an eye on others. Because we understand the importance of our work on the safety of others, we will not tolerate anything less than perfection!

From FAA Personnel, to Air Traffic Controllers, to Aircraft Mechanics, to the Flight Crew, there is no industry in the world with better trained, tested, skilled, and motivated professionals than the people in the airline industry.

# Lesson 3

## The Aircraft and Its Environment

*"The World's Best Aviation System"*

- FAA Administrator, Jane Garvey

Welcome to Lesson 3. Here we will focus on the airplane, how it flies, and the environment it operates in. Becoming more familiar with these subjects will help answer questions and ease concerns which might come up during a flight.

*"Dear Captain Chance, taking your course helped me so much. All four of my flights went very well. I'd never had turbulence before on flights, but I did on these, and I was able to stay calm. Take-off still makes me nervous, but I was able to remember that planes are built to fly and do their job well. I have another set of flights in a week, but I'm much less nervous now."*

Here in Lesson #3, you will learn about:

- The Plane
- The Basics of Flight
- The Air Traffic Control (ATC) System
- The Weather

**The Plane**

For years the airline industry has tried different methods for dealing with people's fear of flying. They have attempted to disguise the inside of the plane as something else. They have tried to make it a restaurant, a bar, or a movie theater. They invented jet bridges to not only shelter passengers from the weather, but also to hide the fact that they were indeed getting on a plane to go fly.

Maybe one of the reasons people can get nervous flying is that restaurants and movie theaters aren't suppose to tilt, change speed, and bounce around a little bit.

Well, I've got news for you. That restaurant/bar/movie theater is first and foremost a flying machine. And a magnificent flying machine at that! Commercial jetliners are wonderfully designed, state of the art aircraft. They are meant to fly, and they fly superbly!

Commercial airline pilots go to great lengths to make your flight as smooth and motionless feeling as possible. But you should know that these planes can really perform if needed. They have big powerful engines, sturdy efficient wings, and very responsive controls. Technically, these jets are not certified to be aerobatic, but they can really maneuver. We could probably even do loops and rolls. But I promise we won't!

So please don't be in denial about the plane. It is primarily designed as a flying machine. You should feel very safe on it.

**Your airplane is not going to fall apart.**

The FAA mandates that modern jet aircraft are designed and built with large safety margins. All aircraft and their equipment are built from FAA approved designs and manufactured under FAA approved systems.

Coming out of the factory, the planes are thoroughly flight tested before certification by the FAA. Structurally, these aircraft can withstand many times the stresses and forces which can be imposed upon them in flight.

The wing of an aircraft is of course very strong. The wing is commonly built as one continuous unit extending through the fuselage. It is constructed with huge reinforced spars.

Unless one were to fly at speeds far greater than normal, there is no way the wing of an aircraft can produce enough lift to bend or break any of its structure. As long as you don't fly unusually fast, even very strong turbulence will not damage an aircraft. The wings just can't produce enough of a lifting force to bend anything.

**Your airplane is not going to lose control.**

Airplanes have a built-in stability. They will not "tip over". This means they will seek a natural state of straight and level flight. If you point the nose of the airplane up or down and let go of the controls, it will work its way back to level flight. Same thing with banking an airplane, they are designed to seek wings level flight on their own. That's why planes can fly "hands off". Just like a car should track straight down the road. (Got an alignment lately?)

**Your plane is a mechanical marvel.**

Redundantly designed, reliable workhorses, jet airliners are not only designed to be safe, but to make money. They don't make money sitting on the ground. The many reliable and redundant systems are there not only for safety, but for economics too. The plane's systems are built to last. If they always break, the airlines will find another plane to buy. Boeing and the other aircraft manufacturers know this.

**Jet engines are simple and reliable.**

Jet turbine engines are not complicated. There are no parts moving in different directions like on a piston engine. Jet engines just have a series of spinning fans. Air goes in the front, it is compressed by fans, fuel is introduced and burned, and the high pressure exhaust gases spin more fans to create thrust (Suck, Compress, Burn, and Blow).

There is no need for camshafts, timing belts, connecting rods, complicated valve trains, or ignition systems (except for igniters, used for starting). Once the fuel starts burning, it keeps burning. Just keep adding fuel and the engine keeps running, really very simple and dependable!

Jet engines are extremely reliable. Back in the days of piston powered airliners, an engine might fail on the average of once every 4000 hours of operation. Fairly reliable, but when jet engines were introduced, the reliability increased TEN fold! The odds are that I would have to fly about three careers, or about 75 years, before I would experience an engine failure.

And if an engine does fail, there is no phase of flight at which this should cause a significant problem. Every single flight is planned in such a way that if an engine was to fail, the plane must still have enough performance to fly safely. We are well trained to handle engine failures in every phase of flight.

**How the plane's pressurization system works.**

The engines draw in fresh, clean air which is compressed in the turbines. That air is fed into the air conditioning systems to cool it or warm it as necessary. This conditioned air enters into the cabin through the vents located near every seat. At the back of the plane is an outflow valve which regulates and restricts how fast the air escapes the cabin. The entire pressurization system is automated and monitored in the cockpit. If the automated systems fail, pilots have control of the outflow valves by manual backups.

As compared to other enclosed spaces occupied by many people, a jetliner's cabin environment is far superior. Most large building's air conditioning systems provide only 20% outside air and are rarely equipped with high-efficiency filters like those in jetliners.

**They keep going and going...**

Quite often after boarding a plane and reviewing the maintenance logs, I note that nothing has broken on that plane for days or weeks. And then it is usually something like an arm-rest is loose or the tray table needs adjusting. Jet airliners are extremely well maintained.

The FAA coordinates with the airline a very strict and comprehensive maintenance schedule. The details of the maintenance schedule are presented here:

There are basically four maintenance schedules used by every airline. Specifics vary with the type and age of the airplane. The schedules, referred to as A, B, C, and D checks, are determined by a combination of the number of flight hours, takeoff and landings, and air-worthiness directives (AD's). AD's are manufacturer and airline notations of problems that arise over the life of a particular type of plane.

These periodic inspections by airline mechanics are according to detailed manufacturer recommendations. Each step of the periodic inspection must be signed off by an FAA maintenance inspector.

"The A Check" is a visual inspection of an aircraft by mechanics which is signed off by an FAA inspector. They look for problems such as stress cracks in the aluminum "skin" of the plane, tire and brake wear, and other routine things. These checks are performed at very frequent intervals.

"The B Check" is similar to the A Check, but with a more intensive search. At this point, inspectors also begin watching for ADs requiring mandatory inspection and, if necessary, repair.

"The C Check" occurs after about a year. This involves a detailed inspection using dye penetrants and X rays to detect unseen cracks in the air frame. The FAA may also require supplemental testing of specific plane or engine parts.

"The D Check" can take place every three to five years, depending on takeoff and landing cycles, hours, and age. This check requires a complete tear-down of the aircraft and involves close examination of the internal components.

**With all of this maintenance and inspecting there is still more inspecting.**

Before the first flight of the day, one of the pilots will do a thorough preflight inspection inside and out. And before flying each leg, the plane receives another walk around inspection by a pilot. On top of that, every day when an aircraft flies through an airline's maintenance base, a mechanic will meet the flight and do a quick "checkup" on how the plane and its maintenance logs are doing.

Most of the maintenance is performed by the mechanics at night during the plane's "down time". When there is major maintenance or scheduled inspections to be done, the plane is taken out of service.

As you can see, these planes are pretty well attended to. Failure of a system or component is rare. And when they do fail, there are many backup redundant systems. (Was that sentence redundant?)

As an example, the plane I fly, a DC9 Super 80, has three main and separate electrical systems. It even has an on-board generating system. The plane only needs one electrical system to power everything. Even if all three systems failed, the airplane's batteries would power many of the systems for a long time. And you know what? Even without any electricity, the plane still has a window, wings and engines. It will still fly. It would be back to the basics, but really not that big of a problem!

Speaking of wings, that brings us to the next subject...

**The Basics of Flight**

For you to understand the basics of flight you can choose either #1 or #2:

1. Memorize: LIFT=CL½pV2S (Lift=Coefficient of Lift x ½ air density x Velocity2 x wing Surface area)

- OR -

2. Read on...

Your choice is #2? Smart choice! (Don't worry about that equation, I'll keep my explanation simple.)

**What makes a plane fly?**

Basically, wings and some speed through the air is all that is required to make a plane fly. The plane is just moving through the air, a fluid, kind of like swimming or surfing.

Air is like water, a fluid. Air is just a little thinner than water. But it still is a significant mass. In fact, at this moment, you are experiencing about 15 psi (pounds per square inch) of pressure from our atmosphere. You don't notice it because it has always been there, and it acts on your body equally from all angles.

Speaking of how strong air can be; have you ever considered what holds your car up off the road? It's not really the tires, it's air pressure - about 32 psi! Think about it...

Many people have a hard time believing that something as big as a jet can stay up in the air. What is holding it up there?

Have you ever stuck your hand out the car window at 30 mph, then again at 60 mph? If you haven't, this is your first Fear of Flying homework assignment.

Now multiply the force your hand feels at 60 mph times ten (Actually, the force increases with the square of velocity so it would be even greater! But I don't want to get too technical here.). That is the force your hand would feel flying at the speed of a jetliner! And if your hand was efficiently shaped like a wing, you could almost fly with just your two hands! (Maybe someday an engineer could plug some numbers into the equation above and let me know if this would be possible? We'll put Boeing out of business.)

The faster you go, the thicker the air feels. To the plane it feels like a thick watery fluid capable of substantial support.

**Flying Whales?**

Whales are huge, heavy creatures. How can Shamu the Killer Whale fly through the air? To do this the whale swims to gain speed through the water. Using his tail fin it angles upward and his flippers create the necessary lift to fly up out of the water.

Jet airliners look massive, but for their size they are VERY lightweight. For the most part they are hollow and constructed primarily with aluminum. For example, you have felt an empty soda can, haven't you? It is very lightweight for its size.

You take wings that big and get them going fast and it creates a tremendous lifting force. Big or small, all aircraft fly using the same principles. No magic, just physics.

**Wing Flaps**

During takeoff and landing the wing flaps are normally lowered. What are flaps and how do they work?

Wing flaps are used to create more lift so that planes can takeoff and land at slower speeds. The slower speeds make takeoffs and landings safer because the plane will not require as much runway length.

The shape of the wing has a small curvature which helps to create lift. The greater the curvature the greater the lift, but with the greater curvature comes greater drag.

During high speed cruise it is preferable to have a flat wing to reduce drag. During takeoff and landing the wing needs more curvature to create greater lift because the plane is flying slower.

To satisfy both high speed and slow speed requirements for flight wing flaps are used. For high speeds the flaps are retracted to make the wing more flat to reduce drag. For slow speeds the flaps are lowered to create more curvature to the wing, thus increasing lift.

**Engines Create Thrust**

A number of people also think the engines keep the plane in the air. The engines don't make lift. The engines just provide the push to keep the plane moving forward. And without the engine's "push", a plane can glide very well by pointing the nose slightly downward (about 3 degrees). This provides the necessary speed.

In fact, I'll let you in on a little secret. Jetliners glide on just about every flight. And they glide very well. Normally, about 100 miles from the destination airport, the pilots will bring back the engine's throttle to idle. The engines are no longer providing the "push". They are nice and quiet. And this saves fuel. Near the runway, the pilots will bring the throttles back up a little just in case any other maneuvering or speed changes are necessary. But the plane could land just fine gliding all the way to touchdown. That's how the Space Shuttle does it every time!

So when you wonder what is holding up the plane, imagine the air has turned to a thick fluid, and the plane is simply "swimming" through it.

**How does an airplane turn?**

Easy, when flying level, the plane's lift is directed straight upwards. To turn, we bank slightly by moving the wing's control flaps (ailerons). This redirects some of the wing's lift into the direction we wish to turn. Because of the centrifugal force of the turn, we don't feel any sensation of tilting. It is like riding a bicycle which leans into the direction of the turn.

The plane's built in stability requires us to actually hold the plane in the bank to turn. Some people may worry the plane will "tip over" in a turn. This cannot happen unless the pilot decides it's time for an air show and rolls the airplane over manually. Not a likely scenario!!!

**How does an airplane climb or descend?**

Even easier, to climb or descend we move the plane's tail "fins" (elevators) to point the nose of the plane slightly up or down. Then to keep the speed that we desire we either increase or decrease the engine's throttle position.

There is really no mystery about flying. You can think of it like swimming through water. We have wings that provide the lift, engines to push us along, and control "fins" to guide us.

Whenever you are outside, take a look up at the sky. Notice how the planes and the birds fly. Think about how they fly. See how they "swim" through the air. Try to get more comfortable with the idea of flight.

**The ATC System**

Even though the sky is a big area, how do we keep planes away from each other?

That's where the Air Traffic Control system comes in. The controllers monitor radar screens in the tower and at ATC center facilities to insure each plane is properly separated from the others. The controller is backed up by a computer which automatically "squawks" at the controller if the separation is not maintained. The controllers hate it when this happens because it means he has to fill out reports and answer to his supervisor.

The separation requirements are fairly significant. Up at cruise altitude, planes must be kept ten miles apart horizontally, and separated 2000 feet vertically. And all planes flying eastbound fly certain altitudes, which are different from westbound traffic.

Another fairly recent addition to our planes is an on-board collision avoidance computer. This on-board system not only keeps us separated from other planes, but also warns us of terrain conflicts.

The other "high tech" backup system is the good ol' windshield. At least one pilot's responsibility is to maintain a watch outside.

**The Weather**

Next we will take a look at how weather affects flying.

**Fog**

Fog is a very common occurrence and can be responsible for numerous delays. There are regulations which prohibit takeoff if we don't have a certain amount of visibility. If we don't have the required visibility, normally about 600 feet, we wait around until it gets better.

The same thing for landing, we have to have a minimum visibility before we can even begin an approach for landing. If the fog is really thick, most planes can be set up for an autopilot landing. The aircraft autopilot can bring the plane right down to the runway, flare, touch down, retard the throttles, track down the centerline, and even apply the brakes. All the while, the pilots have their hands on the controls to back up the autopilot system, which has at least one other autopilot as a backup. The autopilot does a fairly smooth job of landing the plane, but of course, not as smooth as my landings!

If it is too foggy to land, sometimes we go into holding patterns to wait for it to improve, or head to a nearby airport to wait. We always carry additional fuel and plan for alternate airports whenever there is a chance for the weather to get bad.

**Clouds**

Flying through clouds is kind of cool. Layered, horizontal stratus clouds are very smooth to fly through. Often you will not even feel any bumps at all.

When flying through "billowy" cumulus clouds, you normally feel a bump or two when entering and exiting the cloud. Cumulus clouds often have updrafts, and the plane will go up a little when flying through these "puffy" clouds.

Another reason the airplane might experience a little turbulence while going through clouds is due to the changes in air density. Clouds are a little colder than the surrounding air, so the air density is slightly different.

**Snow**

Cold weather can bring snow and ice. Flying in snow is no big deal. But it can reduce visibility similar to fog. We are also limited to how much snow can be on the runway for takeoffs and landings. Sometimes flights are delayed while airports plow snow off the runway. During landings we use our anti-skid brakes, wing speed brakes, and reverse thrust. But if the runway is reported to be too slippery, we won't land and the airport will close the runway.

**Ice**

Whenever any ice is on the aircraft, we always call out the de-icing truck to spray special de-icing fluid onto the aircraft to remove and prevent ice. Once airborne, all modern jet aircraft have anti-icing systems to protect the windshield, wings, tail, engines, and other surfaces from the accumulation of ice. These anti-icing systems may use electrical heaters or hot jet engine "bleed" air to keep the ice off the aircraft.

**Thunderstorms**

The one type of weather that we take very seriously is thunderstorms. Fortunately, there have been many advances in the detection and avoidance of severe weather. We have both airborne and ground based radar as well as sophisticated satellite imagery to help us in planning our course around the bad weather. Recently, Air Traffic Controllers have been supplied with improved weather radar. This can be very helpful in directing aircraft away from the storms.

**Lightning**

Lightning is associated with thunderstorms; however it is not seriously dangerous to aircraft. I know it sounds frightening, but if an aircraft is hit by lightning (and I have been once), it causes no

harm to the aircraft or its passengers. I have seen the effects of lightning strikes on a few aircraft, and all it amounts to is a small pitted area in the metal about the size of a dime. Aircraft are designed in such a way that every metallic part is wired together to allow the flow of electricity to exit through "static discharge" wicks located on the wings and tail.

If you are flying at night through the clouds in the area of thunderstorms, you may on occasion see flashes of lightning that appear to be very close. I have often noticed that flashes of lightning from over 50 miles away are visually transmitted through the clouds, and they seem like the lightning is very close. Remember, this is an illusion, and you are most likely a good distance from the storm.

**Windshear**

Windshear can be a serious by-product of thunderstorms. It is the sudden change in direction and velocity of the wind. A great deal of study into windshear detection and avoidance has been accomplished by the industry after a number of incidents involving windshear years ago. A new type of Doppler radar has been installed in aircraft and at many airports around the country to provide an early detection of windshear. Also, a rigorous training program for the pilots was developed. It involves simulated encounters with windshear, and how to achieve maximum performance from the aircraft to escape the event. With the new technology and training, the effects of windshear can be avoided and reduced.

**Rain**

Strong turbulence is normally associated with the heavy rain of severe thunderstorms. It is the rain drops that the radar uses to reflect its radar beam against. Radar screens display precipitation, not clouds. Standard industry policy is to give thunderstorms a wide berth of at least 20 miles. If a thunderstorm is near the airport, takeoffs and landings are postponed until the thunderstorm dissipates or moves away. Typically thunderstorms travel over the ground from 15 to 35 mph. So many times, if you just wait 30 minutes to an hour, the storm will leave and it will be safe to resume operations.

**Turbulence**

Another type of turbulence is caused by different wind currents in the sky. Wind flowing over obstacles such as mountains can also cause turbulence. It is kind of like water flowing in a river with small eddies. A common winter time turbulence occurrence is called "mountain wave". This is produced downwind from a mountain range when the winter jet stream is at a lower altitude. The air mass in the mountain wave will flow up and down a little bit like sea swells (no, it doesn't make you "seasick"!). This can cause turbulence and is typical east of the Rocky Mountains. Weather forecasters are very good at predicting this type of turbulence because it is easy to track the location of the jet stream. Often we may change the cruising altitude of our flights to minimize its annoying affects.

Turbulence can also be caused by shifting wind currents in the sky. When you transition from one wind current to another, such as crossing a warm or cold front, the air can get stirred up a little. Planes flying through these transition areas will normally experience some light turbulence. Again, it may be annoying, but not a problem.

One of the more common types of turbulence is caused by "convective" heating. As the sun warms the ground, the hot air rises and makes the air a little "bumpy" feeling. You may see evidence of this by small puffy shaped clouds.

This type of turbulence is normally limited to the lower altitudes. You might feel "convective" turbulence for a short while after takeoff or before landing on hot sunny afternoons. It poses no danger and is rarely classified as anything but light or mild turbulence. Birds such as hawks and eagles use this rising energy of hot air to soar above fields. This way, they avoid having to flap their wings while searching for prey. It is kind of a "free ride" for them.

There are many sources of information about turbulence available to pilots. We get information from the weather service, our company Dispatchers, from ATC, aircraft in front of us, and from our own observations of what the sky and cloud formations tell us.

*"Thank you so much for the on-line course. It helped me a lot. I'm TERRIBLY afraid of flying (or I should say I WAS..) and I have a trip planned in a week - I'm sure I'll do much better with his information! My biggest fear is turbulence. This course helped me understand turbulence - which was the main problem - I didn't understand it. Thanks again!"*

People often misunderstand turbulence. When encountering turbulence, nervous passengers feel the plane is "falling" out of the sky. It is natural for them to only feel the "down" bumps. But for every "down" there is an "up" bump. The "downs" are just more easily noticed.

**Car vs. Airplane Turbulence**

Have you ever driven fast over a bump in the road which caused you to come up off of your seat an inch or two? It feels fairly violent and the jolt would certainly spill any drinks you were holding. How large of a bump does it take to do this? Maybe a one or two foot bumps in the road. But it feels pretty bad.

Airplane turbulence bad enough to spill drinks and cause you to come up off of your seat is very rare. But even if you do experience it, remember that the plane is not "falling" hundreds of feet. It just hit a bump a couple of feet high. The altimeters in the cockpit would barely register the bump. So try not to let your imagination get out of hand.

Next time you are driving on a bumpy road, imagine you were a passenger on a plane and how you would consider it to be "bad" turbulence. Now take a look at the road. How big are the bumps on the roadway to create the rough ride? The air is usually very smooth. But sometimes some small ripples can make it feel like "bad" turbulence!

**Turbulence in the News**

Contrary to news reports, planes don't "plummet" when they encounter turbulence. When flying a plane in turbulence, there is no reason to fight it. A pilot will create a smoother ride for the passengers if he/she gently allows the plane to just ride through it. It is like when you are driving over a rough road, you just keep the steering wheel pointed in the general direction you wish to go without fighting every little bounce.

As far as I know, no airliners in modern history have crashed due solely to turbulence while in cruise flight. Turbulence can be annoying, but it won't make the wings break.

In over 25 years of flying, I have never felt that I have been in turbulence bad enough to jeopardize aircraft structure or control. For the most part it is merely an annoyance, and in rare instances can feel scary.

Although, one must always keep one's seat belt fastened while seated! Injuries resulting from turbulence are caused by not keeping seat belts fastened at all times. Unfortunately, some Flight

Attendants and passengers have been injured while standing during un-expectant encounters with turbulence. It probably doesn't feel too good to have your head bang the ceiling of the airplane!

**Summary**

We have learned that planes are well designed and built strong. They have built in stability to fly smoothly and safely. And they are thoroughly tested, inspected and maintained.

We have seen how simple flight is. Just keep your speed and you will have lift and control. The air mass in our atmosphere is very capable of supporting jet aircraft.

We now know there are many procedures and backups in the ATC systems to provide safe aircraft separation.

We have learned the causes and affects of turbulence. While it may be annoying, it is somewhat common to experience a little turbulence on a typical flight. You must understand that turbulence will not harm the aircraft, and it will not make it crash.

And finally, we are aware of the modern advances in weather information technologies that make avoiding bad weather a "breeze".

With this lesson you should feel more educated and comfortable about flight.

# Lesson 4

## Your Strategy for Success

*"Air travel, the safest mode of mass transportation"*

- Dr. Arnold Barnett of MIT

Welcome to Lesson 4. In the previous lessons you have learned about fear. You have also learned that you can trust the people who work in aviation, the airplane, and its operating environment. You are over the "hump", now for the good stuff.

In this lesson you will take a look at safety statistics and discover how safe flying really is! And for fun, we'll take a look at the relative safety of some other common activities. You will see that flying really is the way to travel.

Then you will learn why the news media sensationalizes accidents and how inaccurate they often are in their reporting. Next we will take a look at terrorism. After that, we will look at the most effective methods and techniques to help you cope with stress and fear.

The final lesson, Lesson #5, you will discover what sights and sounds to expect on your next flight. Included are descriptions of what is going on in the cabin as well as in the cockpit during each phase of flight.

This "practice flight" will allow you to visualize a successful and comfortable flight. It will give you a chance to apply what you have learned as well as learning new travel tips.

*"Dear Captain Stacey Chance, I have a flight in three days and I was terrified to the point where I was not sleeping well at night. After reading the online course material, I feel a lot more educated on just how safe flying actually is. It has definitely put me more at ease...as far as dealing with turbulence, takeoff and landing. Thank you very much!!!!"*

Here in Lesson #4, you will learn about:

- Safety Statistics and the News Media
- Terrorism and Hijackings
- Tips for Overcoming Your Fear

**Safety Statistics and the News Media**

Oh, no! Here come all the numbers. I know you have been expecting this. How is a bunch of numbers going to help me, you ask?

They will, if you let them. Fear and concern for safety go right to our basic emotions. Numbers are about logic and reason. You must focus the logical side of your brain (don't ask me which side that is) on the facts below. Please try to suppress your emotions for a bit.

**You Must Be Relaxed to Be Able to Learn**

One important lesson I learned while working as a Flight Instructor years ago, was that people don't learn while under stress or anxiety. The first step in teaching a new flight student was to get him to feel comfortable in the plane. If he was nervous, just about everything I said or tried to teach him was lost.

As you read this, relax. (Have you noticed how some people hate it when you tell them that?) Pay attention. Focus on the relative risks involved. Allow yourself to take comfort in these stats, because they are very comforting! I do this flying "thing" for a living. I fly all of the time. I'm a chicken, so I wouldn't be doing this if I thought it was dangerous.

Many people take comfort in going to the local airport to watch all the planes takeoff and land. After a while you begin to see that the flight operations are indeed routine. Others like to study the ARRIVAL and DEPARTURE monitors in the airport terminal to see just how many flights operate safely. Did you know that worldwide nearly 3 million passengers fly every day?

Here is a quote straight from the FAA website:

*"Air travel is the safest mode of mass transportation. According to Dr. Arnold Barnett of MIT, based on the accident rate over the last few years, you would have to fly on average once a day every day for 22,000 years before you would perish in a U.S. commercial aviation accident. In 1998 there were more than 10 million departures and not one fatality aboard a commercial aircraft."*

**VERY Low Accident Rates**

Here are some statistics about airline safety from the Safe-Skies website, a great source for aviation safety information. You may find it interesting to look at safety numbers in a few different ways:

18 Year (1982-1999) Average Fatal Accident Rate for Major Airlines:

- .0432 Accidents per 100,000 departures
- 1 accident for every 2,300,000 departures
- Only .0000000004% odds of being in an accident each time you fly!

**And it's Getting Safer!**

The accident rate for U.S. commercial aircraft over the last 10 years is steadily improving. Thirty years ago, fatal accidents on commercial jetliners occurred approximately once in every 140 million miles flown. Today, it's 1.4 billion miles flown for every fatal accident: a ten-fold safety improvement.

As happened in 1998, again no one died in commercial airliners in the U.S. during 2002! That would make the third no-deaths safety record in 10 years. Worldwide, there had been only 19 fatal accidents for passenger flights in 2002, an all-time low for the post-World War II era.

And if you happen to be in one of the very rare accidents, the NTSB has issued these statistics which suggest you have a very good chance for survival!

- 96% survive all accidents
- 56% survive serious accidents

(Survivability of Accidents Involving Part 121 U.S. Air Carrier Operations, 1983-2000)

Steps a passenger can take to increase safety -

- Plan escape routes
- Attend to safety briefings
- Read safety cards
- Follow crew instructions

Looking at driving statistics, airline flying is certainly much safer...

Total US Highway vs. US Major Airline deaths in 1997 & 1998:

* 83,493 Auto Hwy vs. 9 Major Airline (Ratio is about 9277 to 1)

**Flying vs. Driving**

How can flying through the sky be that much safer than driving down the road? Let's compare the dangers of driving on a two lane road compared to cruising at 35,000 feet.

Let's say you're driving at 55 mph on a country road with traffic coming at you from the other direction at the same speed. What is your margin for error, three feet? What if you or the oncoming driver experiences a problem, maybe an in-car distraction from kids, cell phone, eating, radio, etc? Maybe an animal enters the roadway. How about a tire blow-out, or steering failure, or brake failure? Or just one of the many oncoming drivers may be drunk or drowsy. There is very little between you and disaster.

Now let's say you are in a commercial airliner cruising at 35,000 feet. How close are you to hitting something? You are about 6 miles from hitting the ground and at least 2000 feet vertically from any other planes. What about mechanical problems? Very rare, and the plane has numerous backups.

**Layers of Protection**

Throughout aviation there are carefully designed "layers of protection". That means that many things must go wrong in exactly the correct sequence to cause an accident. For example, let us take a look at what would have to happen to penetrate the "layers of protection" to have a mid-air collision.

First one pilot must allow his plane to stray into the wrong airspace. The onboard computers would have to miss this altitude or course deviation and not set off warnings. The other pilot in the cockpit would also have to miss this error. The onboard collision avoidance computer would have to neglect to warn the pilots of a possible collision. The Air Traffic Controller would have to miss the mistake as well as his computer and his supervisor. Only then if the two planes happen to occupy exactly the same airspace at exactly the same time, and none of the 2 pilots in either cockpit see the other plane out the windshield, could a collision become a possibility.

Now you can see why driving in a car you don't have nearly the same "layers of protection" as in flying.

So the TRUE aviation danger is the drive to the airport. According to these stats, you are 9277 times more likely to die on that drive than on your flight. So please keep your eyes on the road. While driving your car, you are on your own. You don't enjoy having all of the safety back ups, ATC radar monitoring, and supervision of the many highly skilled professionals that we do in the cockpit. PLEASE be careful!

Some other interesting facts I dug up while researching this:

Lifetime Risks:

- Killed by your own dog: 1 in 260,000
- Death by lightning: 1 in 17,400
- Death by a bee sting: 1 in 70,500
- Death by a brain tumor: 1 in 25,000
- Death by eating peanut butter: 1 in 3,300
- A fatal skull fracture while falling out of bed: 1 in 255
- Being injured by your toilet bowl cleaner: 1 in 2,230

What have I learned from this?

What ever you do, DO NOT bring your dog or clean the toilet bowl while flying!

A somber statistic that we are all vulnerable to no matter what we do is that 600,000 people die each year from cancer. That is the equivalent of SIX Boeing 747 airplanes crashing EVERYDAY for a whole year!

So please, be careful getting out of bed, shaving, showering, and driving to the airport. If you can safely make it to your seat on the plane, sit down and relax knowing that no activity you do is as carefully monitored, scrutinized, inspected, maintained, checked, and rechecked as commercial flying. You have many of the best professionals in the world watching over you.

**The News Media**

But if flying is safer than lying in bed or petting your dog, then why does it make so much news?

It is because the news only reports "new" stuff like "Man bites dog". Auto accidents happen frequently, so they are not "newsworthy". Airline accidents are so rare that the news jumps all over a story like that. When the news media stops covering airline accidents, they have become commonplace.

It is sad that the media sensationalizes stories about "air disasters". It has conditioned people to be afraid of flying. It is hard to ignore the numerous headline stories that follow an unfortunate incident. And often their reports are inaccurate. The media is always in a rush to be the first to report, so they may rush to inaccurate conclusions.

I am probably naive, but I naturally assume the media is, for the most part, correct on what they report. Then I read an article about which I know a great deal about, and I am amazed at the errors. Have you read articles in the paper dealing with your industry or profession? The news media tries, but generally does a very poor job of getting all of the facts straight. They can't be experts about every subject, and aviation is a big, complex industry. An excellent publication for getting no nonsense information about aviation is Aviation Week & Space Technology magazine. If you can get your hands on it, I highly recommend it.

**Terrorism and Hijackings**

The Department of Defense defines terrorism as "the calculated use of violence or the threat of violence to inculcate fear; intended to coerce or to intimidate governments or societies in the pursuit of goals that are generally political, religious, or ideological."

People use terrorist acts in the name of many causes. Terrorism is calculated. The selection of a target is planned and rational. They know the effect they seek. Terrorist violence is neither spontaneous nor random. Terrorism is intended to produce fear not on its victim, but for its impact on a particular audience.

We must not allow terrorism to succeed by allowing our fear of terrorism to control our lives. Today there is a new war being waged on terrorism. From the very top of our government, down to each one of us, it is a fight we must win if we are to retain our freedoms. The entire aviation security system has been overhauled. It is important for all of us, including passengers, to be aware of our surroundings and help identify security threats.

The new security measures being put in place will cost us more time and money. We will have to show patience during these transitions.

**Hijackings**

You should be aware that the nation's airline pilots and flight attendants are very involved in new security procedures. The Transportation Security Administration (TSA) has developed standardized security screening procedures for all airports. The TSA has established layers of security to ensure our safety.

The TSA Security System Includes:

- Thousands of federal air marshals flying on tens of thousands of flights each month
- More robust passenger pre-screening system and 100% screening of checked baggage
- Better airport perimeter security and hardened cockpit doors
- Dedicated screeners - 56,000 of them, hired, trained and deployed to all commercial airports. On average, they move some 2 million air travelers, and 2 million-plus pieces of luggage, safely through security every day.
- All unoccupied/unidentified vehicles will be removed from in front of terminal areas
- Thorough aircraft searches will be performed prior to boarding any passengers.
- Armed pilots and crew members trained in self defense.

The nature of hijackings has changed. Passengers and the flight crew used to handle hijackings in a rather passive manner. In the past, hijackers would usually divert flights to different airports and hold hostages and make demands. I don't think hijackers will ever be able to count on an aircraft's occupants to submissively cooperate any longer. This was demonstrated by what apparently happened on board the fourth plane to be hijacked on September 11, 2001.

The flight attendants report that never before have they witnessed such well behaved and cooperative passengers. I don't think we are going to hear much about "air rage" for a while. Everyone on the airplane knows they are being watched carefully for any unusual behavior. And they are being watched by not only the flight crew and anonymous Federal Air Marshals, but other passengers as well.

**Tips for Overcoming Your Fear**

I will begin with some general ideas about reducing stress in your life. Then you will learn some proven methods for overcoming your fears. Next I will introduce your "Support Package". A specific plan of attack customized especially for your flying fears.

**Stress**

Stress affects all of us. Stress comes from everywhere. Almost everything in our life such as change, conflict, boredom, loss, failure, or even success creates stress. It is important to recognize stress and take care of yourself so that stress doesn't become overwhelming or lead to anxiety. To help reduce your overall stress and anxiety in your life, here are a few ideas.

**Stress Reduction Techniques:**

There are many ways to help reduce stress and anxiety. Most methods simply involve paying attention to yourself and being aware of your desires and needs. You should take the time to learn to pamper yourself more. Here are a few ways to help you reduce the effects of stress in your life.

**Take care of yourself**

Get some exercise. You don't have to run a marathon. A little exercise will use up the excess energy released into your body by stress. It also helps clear your mind and improves your self image. If you like, just take a walk.

Try to eat better. Get plenty of sleep. Take a nap when able. (Can you name an animal that sleeps less than we humans do?) Cut down on stimulants like caffeine, and ease up on sugar.

**Feel good about yourself**

Try to make it a habit to do things that will make you feel better about yourself: Help people. Be nice to others. Be honest. Have a clear conscience. It really does feel better to give rather than receive.

**Feed your soul**

Take time out to play, relax, or start a hobby. Don't feel guilty about this time you take for yourself. You deserve a little fun, don't you? Think of it as a necessity, just like food, water, and air.

Read a good entertaining book, such as **Wings of Discovery**. It's a must read story that I think you'll enjoy and relate to.

*"I have a degree in clinical psychology and my specialty was anxiety - based disorders. I took your course and also bought "Wings of Discovery" and was helped ENORMOUSLY by both. Your opening chapter in "Wings" absolutely captured every emotion people feel in that situation. You didn't sugar coat it and that gave you credibility. It also showed you understood the severity of the problem."*

*"Dear Captain, I finished your book (Wings of Discovery) last night. Actually it was early this morning, about 2am. Man what an inspiring book that was! Just awesome. I loved it. I was so tempted to start all over and read it again, but since I had to get up at 7am for work, I decided that it was probably not a good idea!"*

**Manage your day**

Try to organize and manage your time better. You can not do everything at once. Do one thing at a time. Make a list. Set priorities.

**Control**

Accept what you have no control over. Accept what you cannot change. Don't try to be perfect. Try to change "What if?" into "So what!".

Don't feel guilty about putting yourself first! If you don't take care of yourself, you are no good to anyone else. No one likes hanging around stressed out people.

**Now let's take another look at fear and how you can deal with it...**

Remember that fear is a normal reaction to a perceived threat. Once you learn the threat really isn't dangerous, the fear naturally goes away. Fear itself is not harmful, just uncomfortable. A panic attack will not make you have a heart attack, or faint, or lose control. The following solutions can help you deal with fear when it strikes. It takes practice, but these methods can be very effective. Before your next flight, give these methods some thought, and try to apply them in your every day activities, especially the deep breathing exercise.

**Overactive Imagination**

Quite often people who have a fear of flying also have a strong or overactive imagination. For example, they might hear an unfamiliar noise during the flight, and begin imagining what might be wrong with the plane to cause this noise. Or, they may believe in "signs" or "premonitions" that their plane will crash. For example, they might have a dream, or hear a song on the radio about a plane crash. Odds are, you are not psychic! Remind yourself of this fact, and focus on reality.

**Positive Thinking**

Always try to keep your thoughts in the present. Keep your thoughts positive. When you catch yourself thinking negatively, stop, and concentrate on the positive. Many people dwell on what might happen instead of what is happening. It can be easy to play a "disaster movie" in your mind and you are the in the starring role! When you catch yourself starting the production of one of these imaginary "disaster movies" turn off the projector. Try to occupy your mind with something more constructive. Read, do a puzzle, strike up a conversation.

**Tense Your Muscles**

Be aware of your body. When you feel muscles that are tense or tight, you can relax them. Instead of fighting the tightness, show your muscles whose boss! You tense your muscles! You take control! Go ahead and tighten your stomach muscles or your leg muscles. Then pause and let go. You will be surprised at how your muscles feel warm and relaxed, and you once again, feel in control.

**Slow, Deep Breathing**

When you feel afraid your breathing quickens and your heart races. To calm yourself, first push your stomach outward. Take a slow deep breath through your nose. Try to fill your lungs from the bottom up. Pause, and then exhale slowly. Do this a couple of times and you'll feel much better.

Better breathing instantly leads to a better mood. Controlled breathing is one of the best methods to deal with claustrophobic feelings. Practice your controlled breathing whenever you can. Try it whenever you feel tense. Slow deep breathing is the easiest and most effective method for calming yourself.

VERY IMPORTANT - Learn and practice to use controlled breathing!

**Visualization**

Take a "virtual" vacation. Imagine a wonderful, peaceful setting. Maybe some place you have vacationed. Think about what you see, hear, smell, feel, taste when you are there. Such as: "I remember sitting on that beautiful beach on the North Shore sipping a delicious Mai Tai, watching the waves, listening to the gulls flying overhead, the smell of suntan lotion, a warm breeze on my skin." Close your eyes and visualize this. Try to re-live the feeling of each sensation.

**Write Down Your Fears**

Another method of dealing with your fear is to write down what is causing your fear. Whenever you feel fearful think about what is the root cause of your fear and write it down. The act of expressing the cause of your fear in words on a piece of paper has a calming affect. It gives you a task which gets your mind off the fear. And once written down, it allows you to let go of the fear. You will feel in control.

Another thing that helps is talking about your fears with others. Mention this online course to family and friends. You might be surprised at how many people share this fear and maybe they could use some help too. It always feels good to help others.

After finishing the course you can also visit my online Fear of Flying Help Course Message Board and Chat Room. There are a lot of nice people who share your concerns; it's kind of like group therapy!

# Lesson 5

## Your Flight from Start to Finish

*"I owned the world as I flew over it..."*

- Charles A. Lindbergh

Are you prepared to "own the world"?

Welcome to Lesson 5. In this lesson you will first learn the special precautions and procedures for extended overwater flights. Next you will take a "virtual" practice flight to prepare you for your next flight.

*"Dear Captain, I took your course about a month ago and it helped immensely. I've flown for many years, fearless, and for some reason this year, anxiety and panic attacks hit me. I was now a person who was totally terrified of flying. I have to take a moment to say thank you. I sent a donation and enjoyed your Bonus Page; there was lots of interesting stuff on there. Well, keep up your wonderful work, keep up your humor (which was probably my most favorite part in reading), and I hope someday to have you as my pilot. :) Take care."*

**Extended Overwater Flights**

If your flight is an extended overwater flight there are many special procedures, precautions, and regulations which will apply. And if you are flying on a foreign carrier operating to or from the United States, the FAA regulations and ICAO standards also apply.

ICAO (International Civil Aviation Organization) establishes the rules and regulations concerning training and licensing of aeronautical personnel both in the air and on the ground, communication systems and procedures, air traffic control systems and practices, airworthiness requirements for aircraft engaged in international air navigation as well as their registration and identification, aeronautical meteorology and maps and charts. For obvious reasons, these aspects require uniformity on a world-wide scale.

Some of the additional rules for extended overwater flights include the requirement to carry extra fuel than a domestic flight. Also the maintenance checks are even more stringent, often requiring functional check flights before a plane is released for overwater flights. The aircraft are equipped with additional radios including High Frequency and Satellite Communications and Navigation. Additional safety, survival, and medical equipment are included with the normal emergency equipment. The engines are monitored and held to an even higher degree of reliability than on domestic airplanes. Additional back up pilots work on the longer overwater flights, and flight plans are plotted with "Equal Time Points" to inform the pilots of the closest alternates, thus keeping the flight within a safe distance of diversion airports in the event of a problem.

Once you complete this course, you can plot your overwater route using the "Great Circle Mapper" from your Fear of Flying Help Course Bonus Webpage. You might be surprised at how close your route will be to the nearest land.

By expecting and preparing for the worse, the flight crew, dispatch, and the FAA, are ensuring the best possible outcome if a problem arises.

**Take a "Virtual" Practice Flight**

Practice and preparation is the key to accomplishing any endeavor successfully. To prepare you for your next flight, I have a "practice" flight for you to take. You will learn how the pages you have printed and customized fit into the overall strategy. Please follow along with your "Support Package". However, you do not need to make any marks on the pages. If you wish to write on the pages, print out some extra copies.

Whether you are a first time flyer, or a seasoned veteran, I recommend you complete this practice flight. Included are a number of photos meant to entertain and help you visualize your next flight. Feel free to click on the many underlined words.

So let's get started in making you a more "savvy" flyer!

**Day Before My Flight**

The first thing you want to do is to ask yourself why you are flying. It helps if you feel you are in control of this decision. As adults, we are all free to do exactly what we want. We just have to accept the consequences. For example, you are free to choose to skip the flight to your friend's wedding. Your friend is free to choose to understand why you didn't fly, or your friend can choose to get mad at you.

I have a feeling your choice is to go ahead and fly for whatever particular reason. You have probably chosen to fly because it will make life easier on yourself in the long run. Don't worry, this is a good choice. Later, you will likely find that you will be happy that you made this choice.

Just remember, you do not have to take the flight. You are taking the flight because you have chosen to. If you feel someone is forcing you to fly (gun to your head?), deal with that before you fly. Nobody likes to be told what to do. You are in control of your life!

**Preparation**

You do not want to be rushed. You want to start preparing for your flight early. Try to make your travel plans and buy your tickets well in advance if possible. Set aside time on the day before your flight to get organized.

Carry your personalized "Support Package" with you at all times. Refer to your "Checklist for Success" page often. As you accomplish each applicable item on the checklist, you will place a check-mark next to it, and whenever you feel fearful, use the "Feedback Form" to record the event. Then you can use the "Cheatsheet Tools" page to help calm yourself if necessary.

**Packing**

Put some thought into your choices for books, magazines, snacks, etc. you plan to bring. Why not bring the best stuff you can think of to make your flight as enjoyable as possible? Wouldn't it help if you ended up actually looking forward to your time on the plane to mess with some of the stuff you packed? By the way, this stuff should, of course, be packed into the bag you plan to carry on!

**What to Carry On the Plane -**

- Your "goody bag".
- A hard copy of this course (Use the Bonus Webpage for a printer friendly format)
- Your "Support Package" print-outs.
- Wings of Discovery book to read during your flight.

**The Night Before**

Before you go to sleep, read and practice your "Cheatsheet Tools" page. Become familiar with the three relaxation exercises.

You will want to prepare your body as well. You don't want to be over stimulated or dehydrated. Forget the alcohol. Get some good sleep. Here's a tip: I know I sleep better with 2 alarms set so I don't worry during the night if I have set the alarm properly. And make sure you set the alarms to go off early enough so that you are not rushed in the morning.

**Morning of Flight**

Remember, you are in control! Be deliberate. Don't rush. Take your time and use your checklist. Try to stay focused on the fact that you have chosen to take the flight. No one is forcing you.

Don't attempt to block your upcoming flight out of your mind. You want to follow your checklist step by step. You don't want to end up at the plane and surprise yourself with the reality that you are about to take a flight. It is best to go into this with your eyes wide open. Don't worry, because with the help of this course, you will be the most informed, organized, and prepared passenger on that plane!

**Breakfast**

Plan on having at least a little breakfast, you don't want to drink orange juice or coffee on an empty stomach. The acid can be upsetting to your stomach. Go easy on the coffee; you really don't need any extra stimulants. It is also a good idea to drink plenty of water. The air in the aircraft cabin is dry.

I don't recommend using drugs or alcohol to try to relax. If you follow the steps outlined in the checklist, you will not need them. Just one drink aloft equals about three at sea level, and post flight hangovers can be unpleasant. Besides, alcohol adds to dehydration.

Some people try the drug Xanax. Again, unless absolutely necessary, I wouldn't recommend it. Many people suffer symptoms of withdraw, even when using it sparingly.

I would prefer that none of the passengers on my plane were intoxicated or drugged. For your own safety as well as the safety of others, it is best that you are coherent in the event something such as an evacuation is necessary.

Take time to go over the "Cheatsheet Tools" page again. Read the "Top Ten Fear of Flying Truths".

**Leave for the Airport**

Leave early enough so that you can drive leisurely to the airport. Plan on enough time to find a parking spot, check your bags, clear the security checkpoint, and check in at the gate one hour before your flight. During your drive to the airport practice the "Tense This" and "Belly Breaths"

exercises. Save the "Virtual Vacation" for a time when you don't have to keep your eyes on the road!

**At the Airport**

As of January 1, 2003, TSA began screening 100% of checked baggage at all 429 commercial airports across the United States. Several methods are being used to screen 100% of checked baggage. The most common methods that you will encounter involve electronic screening, either by an Explosives Detection System (EDS) or Explosives Trace Detection (ETD) device.

Transportation Security Administration (TSA) suggests that you help prevent the need to break your locks by keeping your bags unlocked. In some cases, screeners will have to open your baggage as part of the screening process.

Once at the airport you can use curbside check-in with many full service airlines. This allows you to check your bags, including excess baggage, and get a boarding pass right at the curb. That means you can go straight to the security checkpoint without having to stop at the ticket counter. You are normally allowed one medium sized carry-on bag and one personal item such as a purse.

Double check that you have your "Checklist for Success", "Cheatsheet Tools", and your "Feedback Form" still with you. Continue to follow your checklist!

**Airport Security Checkpoint**

Bring a government-issued photo identification card (such as a driver's license) or passport to the airport. You will not be allowed to check-in without proper identification. Also be sure to bring your e-ticket confirmation to the airport. A printed e-ticket confirmation or paper ticket will be required to go through security. If you do not have one of these documents, you will be required to go to the ticket counter to obtain a copy.

Only ticketed passengers will be allowed past the security checkpoint. Be on your best behavior. DO NOT JOKE about bombs, weapons, etc. No one will have a sense of humor about such things, and you could very well find yourself detained by authorities.

Here's what to expect when going through the airport security checkpoint. Due to recent terrorist attacks, all security will be beefed up. It may now take longer to clear security, so plan accordingly. Do not pack scissors, knives or anything else which may be considered a weapon. Here is a list of permitted and prohibited items. All unattended baggage or articles will be reported to authorities. You should expect an increased frequency of hand-held metal detector searches. You may also expect random searches within the secure area prior to boarding.

Certain clothing and accessories can set off an alarm on the metal detector and slow you down. Here you will find tips to help you through the checkpoint along with suggestions on how to dress to go through security smoothly.

There are restrictions on what you can pack in your carry-on and checked baggage. All of your baggage will be screened and possibly hand-searched as part of the new security measures. This inspection may include emptying most or all of the articles in your bag. Here you will find tips to help you pack.

In Summary-

- Do NOT pack or bring prohibited items to the airport.
- Leave gifts unwrapped. They may be opened for inspection.
- Avoid wearing clothing, jewelry, and accessories that contain metal. Metal items may set off the alarm on the metal detector.
- Put all undeveloped film and cameras with film in your carry-on baggage. Checked baggage screening equipment will damage undeveloped film.
- Carry-on baggage is limited to one carry-on bag plus one personal item. Personal items include laptops, purses, small backpacks, briefcases, or camera cases. Remember, 1+1.
- Place identification tags in and on all of your baggage. Don't forget your laptop computer.

**Boarding Lounge**

When you get to the boarding lounge, check in at the gate to confirm your seating assignment. Keep in mind the gate agents have one of the most difficult jobs at the airport. Passengers complain and unload on these poor people all of the time about late flights, etc. Again, be friendly and courteous. You will feel better about yourself. I'm a big believer in "Karma".

If you get the chance, take time to look out the window at the planes. There is nothing to be afraid of. Observe what is going on out there. This would be a good time to think up some questions for the Captain.

The flight will probably board about 30 minutes before departure time. The gate agent is under pressure to get the plane off the gate right on time.

Before the boarding announcement, you should still have time to spend in a seat in the boarding lounge. This is a good opportunity to sit, relax, and review your "Cheatsheet Tools" page again. Then thumb through your magazine with the scenic photos if you like.

Take a look around at the other passengers. Do any of them look nervous? Normally, the most nervous looking ones are the airline employee standby passengers wondering if they are going to be able to make it on the flight! The employees traveling for pleasure are always the last to get on the plane. And only if there are empty seats left.

**Boarding the Plane**

When your row number or seating group is called, gather your belongings and proceed on board. When you enter the plane, mention to the Flight Attendants that sometimes you get a little nervous about flying, and ask if you may visit with the Pilots. This is very, very important!

**Visit the Pilots**

Some airlines allow you to visit the Pilots. The Pilots are always happy to have visitors. The Flight Attendants know this. You might be surprised at how receptive the Pilots will be when you enter the cockpit. Being a Pilot can be a little lonely sometimes. We spend hours locked in a little closet-sized space, with no one to visit with, but ourselves. But remember, visits to the cockpit can ONLY be made on the ground, not during taxi or in flight.

We love to show off all of our gauges, lights, and gizmos to people. So chat with the Pilots. They are regular (for the most part) people, with completely normal families. Ask questions. Mention your nervousness. They will understand and reassure you. The Pilot's confidence is contagious. Now you have a friend up front who knows and cares about you!

**Find Your Seat**

It is time to find your seat, store your bags, and get comfortable. If you are sitting next to someone, say, "Hi. My name is _____. How's it going? Does flying ever make you nervous?". Talking to, and sharing your fears with someone else can do wonders for you. Besides, this is an opportunity to meet some very interesting people, going to very interesting places! (Just like you!)

Continue to follow your checklist.

Take time to become familiar with your surroundings. The seats are comfortable. Most airlines have recently improved their seating arrangements. You will have plenty of room. You could have a phone in the seat in front of you. You might see the ground workers loading bags, catering, and fueling the plane. Notice the overhead controls. You will probably have a light switch, air vent nozzle, and Flight Attendant call button. If you need to use the call button, go ahead. BUT, be careful. Too much call button "action" can make the Flight Attendants a little cranky. I know!

**Engine Start**

At this point, conditioned air is probably being supplied by the Auxiliary Power Unit (APU). The APU is a standby, turbine powered, electrical generator which also acts as an air conditioner. When the Pilots start the engines, they will shut off the flow of cold air for just a minute. This air flow is actually used to spin the jet engines for starting. Once the engines are started, the cabin airflow can now come from all of the running engines.

**Departing the Gate**

Sometimes your plane will be "pushed back" from the gate. During push back you may hear "clunking" noises as the tractor's tow bar is connected and then disconnected at the end of the push.

Other times your plane will do a "powerback" from the gate. During powerbacks the engines are placed in reverse thrust. To put the engines in reverse, thrust reflecting doors redirect the thrust to move the plane backwards. You will know when the plane is doing a powerback because you will hear the roar of the engines to provide the necessary thrust.

**Taxi for Takeoff**

During taxi to the runway, pay attention to the Flight Attendant Safety Demo. Then, if you are not busy talking with your seat-mate or reading, you can again practice your "Cheatsheet Tools" relaxation exercises. Maybe take a "Virtual Vacation". It's free!

While taxiing for takeoff, you may hear noises coming from the hydraulics as the flaps are lowered and your new friends (the Pilots) make one more control check. You may notice the wings flex or bounce a little while taxiing. This is okay. You want flexible wings that give a smooth ride and bend but don't break. There will normally be a short PA from the pilots and a "ding" to notify the Flight Attendants to get seated for takeoff.

There are checklists for each phase of flight: Preflight, Starting Engines, Taxi, Takeoff, Climb, Cruise, Descent, Landing, After Landing, Parking, and Post Flight. The pilots methodically complete each item and then double check the other pilot's actions. There are also many automatic warning systems to alert the Pilots if the aircraft systems aren't configured correctly. For example, the landing gear warning horn will sound if the plane gets too slow or low without the landing gear properly extended.

**Takeoff**

Once the Takeoff Checklist is complete and the plane is lined up on the runway the pilots apply power for takeoff. You will hear a little "roar" as the jet engines spool up. As you travel down the runway you may feel small bumps. This is from the runway surface and the runway centerline lights. You may also hear or feel a slight vibration from the plane's wheels as they spin up to speed.

After a few moments the nose of the plane will tilt up and everything seems to get quieter and smoother as you lift off.

**The plane is happiest in the air. That's where it's meant to be!**

Sometimes it may feel like the plane is climbing too steeply. The steep angle is normal because it enables us to climb rapidly to smoother and more fuel efficient altitudes. Also, in the unlikely event of an engine failure, it doesn't hurt to have a little extra altitude. Don't worry about the steep angles. That just mean your plane has a lot of excess power.

On takeoff see if you can enjoy the feel of the acceleration. These jet airliners have lots of power and can really move! That's good. Imagine if your car could merge onto the freeway with power like that!

Some people worry that an engine might quit. Engine failures are extremely rare. But, as with everything else the pilots are prepared. Engine failures are practiced routinely in training. The engine failure training drills are so demanding that if an engine really does fail it is easy to just circle around and land again.

The FAA mandates that even with an engine out on the takeoff run the plane must still be able to lift off, clear all obstacles by a wide margin, and comfortably return for landing. Each takeoff is planned so that if an engine fails the pilots can either have plenty of room to stop, or continue to takeoff safely.

**During the Flight**

After takeoff you will hear the thump of the landing gear retracting. Then you might notice the whine of the flaps retracting. You may feel the plane settle just a little bit when the flaps retract. When the flaps are retracted it reduces the wing's lift and increases the plane's speed. This is very normal.

Next you might hear another "ding" or short PA notifying the flight attendants it is safe to leave their seats. You stay put though, until the Seatbelt Sign is turned off.

Shortly after takeoff is a good time for sightseeing. You might want to take the opportunity to enjoy some of the beautiful views.

**Climb out**

Here's a little suggestion. If you find you are a little sleepy and would like to take a nap. Right after takeoff, while the plane is climbing, is a great time to snooze. With the airplane tilted upwards a little in the climb, your seat will feel more like a recliner chair. You may find it easier to sleep tilted back like this.

During climb out the airplane may level off once or twice before reaching cruise altitude due to air traffic above. So you may feel the nose pitch downward gently and the engines throttle back. This is normal and routine.

You might hear another "ding" when passing 10,000 feet. This alerts the Flight Attendants that the cockpit "sterile" period is over. The "sterile" period means that the Pilots shouldn't be bothered with trivial matters such as bringing coffee to the cockpit. The FAA requires that the Pilots focus on the job at hand during takeoff and landings.

**Cruise**

Now, according to your "Checklist for Success", it is finally time to relax and entertain yourself. Your flight can be quite enjoyable, if you do it right. Say to yourself, "Time for some major self-pampering!" If you don't feel like just sleeping, you have lots of stuff to do. Snack, read, listen to music, look at pictures, chat with your seat-mate, and maybe watch an in-flight movie. At some time you might want to also stretch your legs and visit the lavatory.

When looking out the window, you will notice that there really isn't any sensation of height. The ground looks kind of flat and artificial. If, at anytime, you wonder what you are flying over, or have any other questions or concerns, ask a Flight Attendant. If they can't answer your question, they can relay your questions up to the pilots.

If you're kids are along with you, ask them to draw a picture for the pilots. We love getting drawings from kids as they get off the plane.

It is normal to be concerned about turbulence, many people are. I know that it is difficult, but if you encounter turbulence, please don't worry. Even strong turbulence is quite harmless. For the most part flying is very smooth. After all, you are riding on air! But sometime the air gets disturbed and creates a little bit of a bumpy ride.

Here's another tip that many passengers are not aware of. A haze layer in the sky with little "puffy" clouds can show you where the smooth air is. After takeoff, it may be a little bumpy due to hot air rising from the sun hitting the ground. This is normally mild turbulence. But, not long after takeoff, once above this haze layer, the air smoothes out very nicely!

Turbulence is not dangerous unless you don't keep your seatbelt fastened. In very rare cases, people or Flight Attendants have bounced off the ceilings during extreme turbulence and have gotten hurt. But, I have been flying for a long time, and have never seen this happen myself. To be safe, just keep your seatbelt fastened around you all the while you are in your seat.

At this point, you probably will not have anymore real bad nervousness. The act of getting onto the plane, is most likely, the hardest part of the trip. However, if you do get a nervous feeling, do not forget to use your "Cheatsheet Tools" again. And make any necessary entries into your "Feedback Form". Don't slack off. You have work to do!

**Descent**

Beginning about 30 minutes from landing, the plane will start its descent. As a passenger, I like this part because I know I'm almost at my destination. Soon, the Seatbelt Sign will be turned back on again.

You may feel some pressure build in your ears a little as the air gets thicker. To relieve any air pressure buildup in your ears, you can yawn or swallow. You can also plug your nose, close your mouth, and blow gently. This will make a little popping sound in your ears, but it feels good.

**Approach**

Sometimes during approach for landing, the pilots will need to slow down to fit into the traffic flow. To do this they may extend the speed brakes, the large panels on the top of the wings. These panels block airflow over the wing causing drag. You may feel a slight buffeting or vibration while slowing down. This is all quite routine.

More noises to expect would be the whine of the flaps extending again, and a few minutes from touchdown, the thump of the landing gear going down. Once the landing gear extends, you will hear more sounds of air rushing by.

Your checklist is about complete. The Pilot's checklist is complete, "Cleared for landing!"

**Landing**

The plane's landing gear have huge, heavy duty shock absorbers. They can withstand very hard landings. (Which is rare, especially my landings!) So don't worry.

There are large safety margins built into everything. We are trained to always set up on a long stabilized approach. We do it the same way every time. Landings are easy. Sometimes we land so smoothly we have to call the tower to verify we are really on the ground!

After touchdown on the runway the pilots gently lower the nose wheel and apply reverse thrust. Quite often you will hear the engines roar a little as the exhaust thrust is redirected forwards. The two other methods for slowing the plane are the massive wheel brakes which have "anti-skid" protection, and the speed brakes which pop up from the top of the wings and cancel lift and provide "aerodynamic braking".

Once the plane has slowed, it is taxied clear of the runway. The engines come out of reverse, the flaps and speed brakes are retracted, and the plane is taxied to the gate.

YOU Have Done IT!!! Congratulations!!!

No dancing in the aisles until the plane has come to a complete stop, and the "No Dancing Sign" is turned off!

**Gate Arrival**

Upon gate arrival, look around your seat and pick up your belongings. Smile and say to yourself "Success!" Then say, "Good bye" to your seat-mate, exchange a thank you with the crew on your way out.

I hope you are excited about what you have accomplished, because I am! You knew you wanted help with a problem. You did something about it. And now you have achieved your goal of flying comfortably and without fear!

Mr. Lindberg will now have to share the world with you too!

Some people suffer with their fears for many years without doing anything about it. It is common for people to try to ignore or avoid their fears. You should be proud for taking the necessary steps to help yourself along with a new sense of empowerment from conquering your fears.

*"Dear Captain Stacey, not only did I totally enjoy my flight, I was the calmest person on the plane. I gave a copy of your printouts to the poor sweaty guy next to me! This course is excellent not only for flying, but an analytical approach to anxious situations in general. Thanks!"*

Remember, your Support Package checklist will be your step by step guide for a successful trip. Completion of this course has made you the most prepared and informed person for your next flight!

Please don't miss the online **Bonus Webpage** and check out my book **Wings of Discovery**!

Thanks!

*Captain Stacey Chance*

Free Online **Fear of Flying Help Course**

**www.fearofflyinghelp.com**
**www.fearofflyingbook.com**