CHAPTER 3: Captain of the Ship

History and Overview

If you are familiar with our original Accu-Sim 377, then you know it is about deeply simulating the aircraft systems and the entire cockpit environment. This was our very first Accu-Sim product, and the day it came out virtually every single customer was flying an Accu-Sim aircraft for the first time.

So we found ourselves with more and more customers that, for the first time, were in front of so many systems that hadn't had any meaning before. Our concern was getting over-loaded with customers asking for help (we had spent months preparing for this moment). However, after release, we weren't getting bombarded by customers in need of help. Instead they were busy exploring all of these newly working systems and simply, **having fun learning**. Yes, there was probably a record high of aircraft crashes shortly after take-off, but people were excited and engaged. Cylinder head temperature wasn't a useless gauge anymore; it not only showed correct readings, but these readings meant something. This was also the first time many heard of CAT (carburetor air temperature). You can read about this stuff, but it's not until you live it do you truly understand not only what it is, but what it means. We included an authentic automatic mixture system, independent and manually operated turbochargers, spark plugs that could gradually foul (not just turn your engines off), and a new water-injection system. The list of first-time systems goes on. However, within weeks, what quickly became the most common request was, “we want more.”
So we took what we learned from the 377 and used it to create our next Accu-Sim aircraft, the P-47 Thunderbolt, which most notably included a brand new sound system. Every single switch, dial, and lever in that cockpit was painstakingly reproduced. Finally, you could open your canopy and hear physically driven wind and prop sounds that delivered a genuine open canopy experience.

After the P47, we took stock in what we had created, and wanted to make sure we were not getting ahead of ourselves, perhaps walking past some of the nuances to a true stick-and-rudder experience. So, to make sure we had every basic item completely covered, we decided to do the most famous basic airplane of all, the Piper J-3 Cub. To give an example, we spent a week studying and coding the physics of that little oil-based magnetic compass. This is because, when you have so few indicators in a cockpit, J-3 pilots really got to know every nuance of each gauge and we needed to not only know it, but reproduce it. We applied this thinking to the entire cockpit, and simply moved throughout the airplane one step at a time. Ultimately, we were hand-starting the airplane, getting “on the step” with the float plane, and even paddling it to the shore. But in the air, this airplane is all about feel, and this is where the wind, drag, and new Accu-Sim physics came into play. In the words of one of our high-time flight instructors, “for the first time I can actually teach proper spin entry and exit procedures”. But, putting all that aside, probably the Cub's biggest claim to fame was that little pretty passenger we threw in the front seat, that the community came to affectionately known as “Heidi.” Heidi's popularity comes from her personality, her attitude, and her intelligence. She seems alive.
Moving forward from the Cub, we just made a much bigger (and more complex) Cub, the Boeing B-17 “Flying Fortress.” The B-17 was one of the first massive “electric airplanes” with flaps and even landing gear operated not by more traditional hydraulic or pneumatic systems, but by electrical motors. In addition, it was a large 4-engined bomber designed to be flown by young, inexperienced pilots so it included some innovative equipment that helped make the airplane pilot friendly.

The Accu-Sim B-17 was really a culmination of everything in one package. We had an active and historic crew, and we created a new, highly expanded maintenance hangar that drove deep into those aircraft systems.

Then for our next product, we attacked an area that has been so lacking in flight simulators, the propeller. To anyone who has studied aeronautics, they know and respect all of the almost countless nuances that go into simulating the physics of a propeller. We studied everything that was considered the accepted propeller physics, yet there were still areas missing. So we actually created our very own propeller physics engine allowing those missing elements to count. With this we created a tutorial video showing the differences between different kinds of propellers, and how dramatic these differences are. Our Accu-Sim Spitfire customers now have hands-on experience with fixed, variable, and constant speed propellers. And they are experiencing the only system in the world that does it in such a way.
Primary Trainer for the Berlin Airlift

However, during much of this time, we have maintained contact with Tim Choppe of the Berlin Airlift. For years he has been restoring and re-designing his C-97 Stratofreighter to join the Berlin Airlift to take part in tours with his C-54 Skymaster around the United States and beyond. However, when we first met Tim, he simply needed a better training tool. And we just happened to have created the Accu-Sim Stratocruiser, which is the civilian version of his C-97 Stratofreighter. So we met up with Tim and provided him with the tools he needs to better train for his C-97. Since then he has been using our Boeing B377 almost daily for training and preparation for his C-97.

Now Tim is a certified C-97 engineer, but he is also certified to fly left seat. So up to this point, Tim has been using our simulator to train as the engineer. But this is half the training he requires. He also needs to train to fly this aircraft left seat and have a capable engineer working with him while he handles all the responsibilities of directly flying the aircraft.

So for the past half-year, we have been slowly building an intelligent flight engineer that can manage this entire panel and react humanly to almost every situation.
When Flying Was an Event

During the glory days of aviation, flying wasn't about going from point A to point B, it was an event. And flying on the new, double-deck, Boeing 377 Stratocruiser was literally the biggest aviation event there was. These passengers have paid to fly on the largest, most advanced, most luxurious aircraft in the world. And at the very least, they expect a smooth flight. What they don't expect is an inexperienced, ham-fisted captain at the controls. These passengers expect and deserve the very best.
Captain of the Ship Features

• **You learn the most when you are having fun.** Our former Accu-Sim 377 is extensively used by Tim Choppe, owner of the Berlin Airlift’s C-54 and C-97 Stratofreighter for his own personal training
• **New career system** is based on how well you manage your aircraft systems, quality of flight, and emergencies
• **Intelligent passengers** react to the weather, flight, and cabin conditions.
• **This is your captain speaking.** An intelligent captain keeps passengers informed on the flight’s progress
• **A Live engineer** manages systems which allows a true left-seat experience
• **Virtual flight attendant** performs her duties and reports to the crew
• **Navigator’s station** with real-time monitoring and calculations of wind and flight conditions
• **Professional audio** with new sound suite including over 15 electrical motors, authentic switches, wind, cabin creaks, etc.
• **Natural speech** constructs sentences dynamically from a pool of over 1000 sound recordings strong.
• **Accu-Sim physics** system shakes the cockpit and airframe based on both external and internal conditions
• **Real-time passenger loading** and unloading
• **Deeper systems modeling** throughout including oil pressure loss, friction heat, and cabin pressurization failures.
• **New Cabin pressurization module** driven by the turbochargers
• **New Climate control systems** including 24,000 watt air conditioning compressors along with dual body heaters
You Learn the Most When You Are Having Fun

We built a custom PC with our A2A 377 Stratocruiser for Tim Choppe of the Berlin Airlift.
After delivering the new system with the A2A Boeing 377 Stratocruiser, Tim Choppe began training and, to this day, has accumulated over 1,000 hours with our Accu-Sim Stratocruiser. In Tim's words to us, “Training on your Accu-Sim Stratocruiser has changed the way I train. I now enter my airplane and am immediately familiar with the systems.”
Our engineer’s panel is fully functional and Tim has been spending most of his time here, training as the engineer.
Now it's time to train left seat.
New Career System

New Career System is based on how well you manage your aircraft systems, quality of flight, and emergencies.

In real life, every action we do (or don't do) has consequences that go along with it. This is never truer than when piloting a system-rich, period airliner like the Boeing 377 Stratocruiser.

However, as captain, you are not only responsible for the entire aircraft, but for every life on that plane. By law, every person on board that plane must follow the orders of the pilot in command. In fact, the captain has the authority to refuse a direct order from an air traffic controller if he is acting in the interest of the safety of his aircraft. So understand that the captain has the ultimate authority and responsibility for the safety of everyone on board his aircraft.

Training aside, you will find that managing an aircraft with passengers is mostly rooted in common sense. Your passengers, like all people, like to be in a comfortable climate, don't like being subjected to sudden forces, and enjoy good food and drink.

When you fly with your new Accu-Sim Career Module, remember the following:

(NOTE: You do not have to remember what is on this list. It's just all common sense you will know instinctively)

- In cold climates, be sure to allow your crew time to heat up the cabin prior to loading passengers
- In hot climates, start the engines a few minutes prior to boarding to cool the cabin down
- If you choose to fly exclusively left seat, give your engineer time to set the systems up and your crew to perform their ground duties before just throttling up and taking off.
- Be easy on your engines from the very start. You are responsible for wear and damage on that plane, so only use the power you need.
• Turn the seat-belt sign on during takeoff, landings, at lower altitudes, transitioning through clouds, and in any expected turbulent conditions. Ensure you turn it off when the flying is smooth.

• Allow your passengers to finish eating a meal before landing

• When passengers are eating, fly with a feather's touch. It is recommended you keep the plane in a steady flight in smooth air if possible.

• Fly carefully when passengers are sleeping

• Make coordinated turns. USE THE BALL! If you do this correctly, unless someone is looking out the window, they won't even know you are turning.

• Be very careful with the rudder, as it is powerful and can cause all kinds of bad things to happen in the cabin especially when food and drinks are throughout the cabin.

• Plan your descents and don't force fast pressure transitions. This can cause bad ear pain for passengers, including little passengers that cry and can ruin the flight for others.

• Make the absolute best landing you can. This starts with a proper, steady approach. Making landings takes PRACTICE PRACTICE PRACTICE. Landing is HARD WORK for even the very best pilots.

• Be calm during emergencies, because your passengers will likely not be, and they will look to you, the captain, to maintain control. Under a critical emergency like a lost engine, engine fire, or pressurization failure, get that plane on the ground safely and your passengers will thank you forever.

• If you are unlucky enough to have a passenger fall seriously ill on your flight, get that plane to the closest appropriate airfield as soon as you can.

• Sometimes a VIP will board the plane. With VIP's come press and attention, so think of it as doubling down in Vegas. Make a good flight, and reap the recognition. Make a bad call, and that will be remembered too.
Underlying Intelligence System

The very core of Captain of the Ship is an intelligent human-like system that watches... and learns. Yes, Accu-Sim doesn't just pull variables from the host program, in this case Microsoft FSX. It observes, and adapts. Why? Well frankly, repetition is boring and a true simulation demands freedom, and freedom of choice is the very essence of a simulation experience. After all, you are the boss, and the very nature of being a leader is making choices.

So once this system was tested and in place, we are now able to deliver naturally speaking people, including the captain. Our Accu-Sim sound system now includes a Natural Speech module that dynamically constructs sentences on the fly. It pulls from a pool of over one thousand sound recordings strong and produces natural speech. The end result is a captain, co-pilot, navigator, engineer, and even a flight attendant that just speaks. There are no canned captain's call buttons. Your new natural speech captain speaks based on the surrounding conditions, and does so without canned or triggered repetition.

Intelligent Passengers

Passengers react to the weather, flight, and cabin conditions

We try hard to simulate all conditions, and not just expected ones, because life is full of surprises. The passenger module was built on top of our famous “Heidi” intelligence module made for our Piper J3. This time, it's not an individual, but more of a crowd mentality. Be smart and keep them comfortable, fly the aircraft well, and be prepared for emergencies, and you will likely have a successful career.
You are Captain of the Ship

When you are a captain of the largest, most luxurious airliner in the world, you carry an enormous responsibility to not only the aircraft itself, but to the passengers and crew.

This Is Your Captain Speaking...

Your captain observes the flight, its state, and the surrounding conditions and will report updates to the cabin from time to time. He speaks using natural expressions, rather than canned, triggered recordings.

The Buck Stops with You, Captain

You, as the captain, will be remembered and judged by your actions (hopefully not lack of action). The Accu-Sim Career Module is built around this premise. Your reputation is built by repeated and consistent good flying, but there always lurks the unexpected and rare emergency. Those rare unexpected moments are known as a “Captain's Call.”
In a completely unexpected, crisis situation, what are you going to do? Are you going to hesitate? Are you going to fumble around with the manuals? Or are you going to get right to it? What if you have a minor pressurization failure? Will you make a death plunge for the lower altitudes where the air is thicker; effectively turning what was a minor situation into a crisis? What if you have a medical emergency in flight? What about a simple problem like a heating failure happening half-way across the Atlantic at 30,000 feet, where the air is sixty below zero?

Most of your flights are not going to have drama, but every experienced pilot knows that unexpected events are lurking in the shadows just waiting to happen. However, you cannot control or prevent these unexpected events. A machine shop that forged a faulty rod that happens to give while you are at the controls is not within your control. The mechanic that fails to fasten down an oil line is not in control. All you can do as Captain is to know your aircraft, operate it responsibly, and be prepared for anything that might happen.

And this, we believe, is where the magic comes in with Captain of the Ship, because everything you do is remembered. In real life, the best is brought out in those who are held accountable for their actions. The same thing applies to a simulation. When you are held to account for all of your actions and all of these actions are remembered and together, create your identity and reputation, suddenly it is an entirely new experience.
Be The Best You Can Be

A lot of you for the first time are going to notice “The Ball.” If you are someone who has not cared about this ball before (located on your Turn & Slip gauge), you are going to care about it now. Because this ball will allow you to make perfectly coordinated turns. When you make a coordinated turn, people in the back won't even know you are turning. I am sure you have been in an airplane and suddenly looked out the window and you are looking either straight down at the ground or up in the sky, and before you didn't even know you were turning. Now THAT is a coordinated turn. I am also sure you have been in an airplane and that aircraft is banking, and you know it. Now that is NOT a coordinated turn. That kind of turn is acceptable when people are sitting down and your seat-belt is fastened. An uncoordinated turn like that is not acceptable when people are roaming about the cabin or eating a full course meal. Now, you have to be that experienced pilot.

On very cold or warm days, you will learn to give your crew extra time to prepare the cabin. This may mean running the body heaters, or starting the engines early and blasting some fresh, cool air into that cabin.

If you are an engine mechanic or an aircraft owner, you know that running an engine at its maximum power wears it down much faster than running it at cruise power or even climb power. Don't be surprised with Captain of the Ship, if you find yourself taking off with something less than take-off power.

Maybe you were used to raising your flaps quickly after take-off and didn't mind if you sink a little bit, but now you may think a little differently because there are people in the back.

You may even find yourself reaching for that seat-belt sign before you hit turbulence. Why? Well, maybe because on your last flight you hit turbulence shortly after take-off and the seat-belt sign was off. After that flight, a passenger decided to voice his grievance with the airline. Also, please note that people like a smooth flight when they are eating dinner.

You may find yourself taking the extra time to make a proper approach. This new-found patience may be from the consequences of your last flight making last minute corrections or perhaps a sloppy kick of the rudder to get back onto the glide slope. With every new experience, BANG! you’ve just became a better pilot. Why? Because you are accountable.

It sounds like a lot perhaps, but you will be surprised just how natural it all comes to you, and you will just remember because it all makes sense in the real world, and now does in the simulated world.
**A Live Engineer**

Flying with a live engineer allows you to have a truer left-seat experience.

About 6 months of AI coding and testing has gone into breathing true life into a systems engineer who will handle the engineer's panel properly in almost every possible scenario.

It is important that our engineer, Larry, acts not like a computer but like a person, because in real life people manage this aircraft, not computers. While Larry is capable, he is not perfect. If you hand the panel over to him, give him time to go through the systems, checking one by one. He needs to scan the panel with his eyes, needs to think, and make adjustments.

Your engineer actually talks to himself while he works, so as you are flying left seat, you can hear cues of what he is adjusting.
Main Panel

This covers the entire panel including:

**Oil system**

Initially, the oil levels will be checked and reported to the captain. Later, during flight, if any of the engine oil tanks fall below ten gallons, a gallon will be injected from the main tank to that tank.

**Fuel System**

The fuel selectors with booster pumps will be set accordingly to the current flight stage, fuel level, and balance requirements.

**Cowl flaps**

Cowl flaps will be set to approximately 3” when idling on the ground. In flight, the flaps will be opened just enough to adequately cool the engines, while maintaining the least amount of drag.

**Inter-cooler flaps**

Inter-cooler flaps will be opened just enough to adequately cool the turbocharged air, while maintaining the least amount of drag. The flaps will be opened based on not just the present temperature but where the engineer believes the temperature is headed, in an effort to set and forget as much as possible, rather than constantly chasing and adjusting the flaps.

**Ram / sheltered air**

Ram air will be used in most situations except in icing conditions or when the CAT gets too low despite closing the inter-cooler flaps. In sheltered mode, the air is slightly warmer than in RAM mode.

**Oil cooling flaps**

While these can be manually operated, the engineer leaves these in automatic mode and the oil cooler flaps adjust accordingly.

**Electrical system**

Generators will be enabled on engines that are running and disabled when the engine has stopped.
Cabin heat and cooling system

The ground blower will be turned on when needed on the ground and off when the RAM air becomes adequate. NOTE, this is not to be confused with the engine RAM air flaps, as this is an independent system. The master air system will be enabled and either the cooling compressors or body heaters will be enabled based on the outside and cabin and cockpit temperatures.

Pressurization

He will handle the turbo bleeders, cabin pressurization rate of change, and cabin pressurization altitude.

Turbochargers

There are two ways the engineer can manage your turbochargers:

Normal

Turbochargers will be managed based on the outside pressure altitude, giving you about maximum available power at all altitudes. If you are throttled back he will move the turbo lever ahead just enough to maintain enough differential pressure for the cabin pressurization to work properly.

MP (Manifold Pressure) Hold

Turbochargers will be managed to maintain a constant manifold pressure. This can also be helpful if you wish to run the turbos harder or easier. If you ask the engineer to hold, say 50”, then pull back your throttle, he will increase the turbo's until 50” is restored, effectively working the turbo's harder, raising your CAT (carb air temperature). If you push the throttles forward, he will then back off the turbo's essentially using less turbo, therefore lowering your CAT.

IMPORTANT: Larry will not adjust the turbo lever in MP HOLD mode to maintain cabin pressurization, so be careful not to apply too much throttle, as he may back off the turbos too much in an effort to hold the manifold pressure you requested.

If your CAT or turbo bearing temperatures get too high, he will back off the turbos to prevent damage from high heat.
Her name is “Heidi”

The young Cub Pilot who flew 15 B-17 missions as Co-Pilot and 24 more as Captain over Europe until May 8, 1945 (VE Day), when he volunteered to go back to the States to train in the new B-29. He flew 18 missions as a B-29 Captain in the Pacific Theatre until August 14, 1945 (VJ day).

After leaving the service in October, 1945, he went to work at Boeing in Seattle to help them to develop their C-97 for civilian use as the 377 Stratocruiser. In June, 1948 he began receiving many very attractive offers from a number of airlines to train their pilots and crews to fly the new 377s which they were purchasing. He accepted one such offer in August, 1948, and did this job very well for a while. However, he missed performing the duties of a flying Captain. So, in March, 1950, he became a 377 Captain for a major airline where, a month later, to his surprise and delight, he was reunited with newly-promoted Chief Stewardess Heide, whom he hadn’t seen since he went overseas to England in December, 1942. They flew together for the next 36 years until October, 1986 when he retired. They are still close friends.

Heide joined the WACs in January, 1941. She became an AAF Air Traffic Controller (ATC) and rose to the rank of Major, having served in England during the war and in Germany after VE Day. She left the service in June, 1949, after having participated in the Berlin Airlift. She worked for the CAA as an ATC for a while, but wanted to get into the air again and applied to and was accepted at a major airline’s stewardess school. She began working for them in that capacity in November, 1949; quickly advancing to Chief Stewardess in April, 1950.

Although on a number of occasions Heide received offers from the Air Force and the FAA to return as an ATC, and also was wooed by a few major stewardess schools to be their director, after her reunion with her dear old friend, she remained as Flight Crew on his flights until he retired in October, 1986, when she, too, retired. - Mitchell Glicksman
Just a Stewardess?

In many ways, the stewardess (flight attendant) is the most important person on the plane. She does a job that very few people could do well. She is the face of the airline and she is directly responsible for servicing the passenger’s needs. She greets people with a smile while boarding and she helps them with all their needs including finding their seat and stowing their luggage. She is also responsible for making sure all passengers understand the minimal safety precautions from showing them where the exits are to how to use oxygen in an emergency.

Once the aircraft is airborne, she continues to work to respond to every need while serving drinks, snacks, and full course meals. On overnight flights, she will will attend to every passengers need so that they get the most comfortable night’s sleep possible. She is on constant alert and takes very few breaks.

Your head stewardess, Heidi, works during a time in aviation when flying was a major event. Additionally, the Boeing Stratocruiser was the largest and most advanced passenger plane in the world. This means just like every crew member aboard this first-class airliner, she is held to the very highest standard.

Just like a highly experienced captain, she is at the very top of her game. Therefore, she deserves the very best from you, her Captain. Give her a smooth flight so the passengers feel safe and comfortable. Be responsible with your climbs and descents, and be sure to alert the cabin with a seat-belt warning before you enter into turbulent conditions.
Navigator’s Station

The Navigator’s station includes real-time monitoring and calculations of wind and flight conditions. Your navigator gets reports of the wind conditions and determines any cross, tail, or head winds.

He also monitors how the aircraft is behaving and determines what the turbulence level is regardless of what any weather reporting stations may be reporting.

<table>
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<tr>
<th>Navigators Notes</th>
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<tbody>
<tr>
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<tr>
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<tr>
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</tr>
<tr>
<td>Temperature: 47°F 8°C</td>
</tr>
<tr>
<td>Visibility: 10 miles</td>
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</tbody>
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Aircraft time is tracked, basically meaning the time the passengers are on regardless of what time zones you have crossed over. He has a gold pocket watch he keeps on his table that you can look at. Meals are served based on this time, and not local or global time.

See your updated Captain of the Ship Edition flight manual for details.
Professional Audio

A new sound system with over one thousand brand new recordings.

Any great sound begins with a great recording, and the highest quality audio can only be captured by industry professional sound engineers using the very finest audio equipment.

First, we visit the aircraft and analyze all of the sounds that it is capable of making, whether it is sitting on the ground or flying through a thunderstorm. Then we isolate and capture hundreds, sometimes thousands of sounds as they occur.

Once back in the studio, the sound then gets processed and entered into our latest Accu-Sim sound engine, where they are driven and even modified by the actual physics inside our aircraft.

Now when you flick a switch, you hear the actual switch live, on the fly. The same applies to all kinds of levers, buttons, and knobs. Furthermore, these switches and knobs control newly recorded electrical motors and servos. You will hear the actual cowl flap wind up, run, and wind down. Additional motors control the inter-cooler flaps, oil cooler flaps, and oil pump motors as they pulse and whir. A genuine Boeing APU was captured and winds high or strains when you put higher electrical loads on it. You can even open the window and hear the props through the window. You can hear the air as it passes smoothly over your airframe or as it slams into the side or underneath areas of the aircraft. Flying through a thunderstorm is a true, Accu-Sim audio experience in FSX. Just be sure to put the seat-belt sign on so your passengers stay safe.
Natural Speech

Captain of the Ship includes a Natural Speech Module which constructs sentences dynamically from a pool of over 1000 sound recordings strong.

For speech to sound natural in a game, simulation, or movie, it always begins with a convincing actor (or actress) captured by sound professionals using high quality microphones. But in today's high tech world, that is where the natural part ends. Those recordings are then digitally processed and placed inside ambient environments to simulate how speech is heard whether it comes over a head set, over a PA system, normal talking behind a closed door, or right next to you.

From there our brand new Accu-Sim sound module constructs sentences on the fly based on actual conditions. This means the captain can update the cabin several times during a flight and always sounds natural and spontaneous.

Your engineer is constantly keeping you updated and instead of hearing the same repeated sentence, you hear natural, live updates. When your head stewardess, Heidi, comes in to serve meals, she reads from the menu on the fly just like we do in real life. Across the board, all talking is managed with this new speech module, which hopefully gives you the immersion of being among thinking individuals.

This is absolutely necessary to make it all sound “natural” to you, the end user.
Accu-Sim Physics

Accu-Sim physics system shakes the cockpit and airframe based on both external and internal conditions. When the engines start running they vibrate and shake your cockpit. Once the airframe starts to move, ground bumps punch and buck the aircraft through the wheel struts. It shakes, bucks, and strains as it rolls on the ground and ultimately as it takes to the air above. Wind forces can cause your airframe to creak and stress and even the air that passes over the elevator at slow speeds also shakes the aircraft, just prior to the wing completely stalling.

Real-time passenger loading and unloading

Every time you load your plane, you will get a fresh new load of passengers. Some passengers travel alone, while others travel in groups / families. Clicking on any of the load pre-sets will start a real-time loading of your airplane. You can always hit FAST LOAD, and it will still load realistically but will simply do it much faster. Your ground crew and stewardess will also keep you informed of the progress.

You can also see a more accurate status in your CREW REPORTS (SHIFT-2) panel pop up.
Deeper Systems Modelling

Deeper systems modelling throughout including oil pressure loss, friction heat, and cabin pressurization failures.

If you notice any of the following, you may be experiencing engine trouble:

- More vibrations than you are used to
- Higher than expected oil temps
- Lower than expected oil pressures
- Lower than expected torque

If you or your crew has determined you have internal engine trouble, it is recommended that you feather the prop and shut the engine down. This is because the engine is at risk of degrading into a possible emergency situation like a sudden engine failure or even worse, a fire. At the very least, if you MUST keep the engine running, use it at the most minimal power possible.
New Systems

Some people will notice some new gauges here, including a pressurization system that uses the pressurized air coming from the engine turbochargers. It's a very interesting system to get to know and to use. Your engineer can handle this along with a brand new air conditioning cooling and heating system. He can also manage your electrical system, which is all-new in this Captain of the Ship package. One of the biggest selling points of the Boeing 377 is giving pressurized, air-conditioned comfort all the way to 30,000 feet. The air conditioning on this aircraft is equal to the power of 300 refrigerators. You can see these babies kicking in an out on our electrical panel and anything from turning on various lights to various systems and pumps can be seen placing their draw here. You can isolate your battery and individual generators and see how they are performing.

We have also used our latest sound engine to bring this aircraft to life. Every switch, dial, lever, and up to fifteen electrical motors can be simultaneously heard in the cockpit. Add this to all the creaking, rattling, and bucking in this airframe, it becomes an orchestra of sound in the cabin.
New Cabin Pressurization Module

As you climb into the higher thinner air, it holds less oxygen. To remedy this, a pressurization system is employed to make the air denser, and therefore to being close to its natural density at sea level. Such a system requires an aircraft cabin that is sealed and has minimal leakage.

The Boeing 377 Stratocruiser uses the higher air pressure generated by the engine turbochargers to increase the cabin air pressure. This requires the turbochargers to be running, especially as you fly into the very high, thin air up at 30,000 feet.

You have four turbo bleeder switches, which control the tapping into each of the four turbochargers. Together they provide a combined increased pressure to the cabin. There are also two turbo differential gauges that show the pressure difference between the cabin pressure and the pressure coming from the turbochargers. You always want to see some reading on these gauges as it means you have some extra pressure 'headroom' coming from the turbochargers.

You can play with the throttle and turbo lever to see this authentic, period system in action.

Trouble occurs most when you expose an average person to rapid changes in pressure. Usually, this is felt in the ears and sometimes head. Aviators can build a tolerance to this, but average “folks” can range from being tolerant to very sensitive to air pressure changes. Babies tend to be very sensitive to these changes as many reading this manual have experienced a crying baby on an airplane.

As the engineer of the plane, do your best to avoid changes in “cabin altitude” in excess of 300 ft/min and the folks in the back will be comfortable.

The crew will put on their oxygen masks should the cabin altitude go
higher than 10,000 feet.

New Climate Control Systems

The Climate Control Systems includes 24,000 watt air conditioning compressors along with powerful, dual body heaters.

The Boeing 377 Stratocruiser was designed for the very highest, 1st class comfort possible, and this includes not only two strong body heaters but an air conditioning system of the power of three-hundred refrigerators. The air conditioning compressors are not mechanical, but electrical and therefore place an enormous weight on the electrical system. To run your air conditioning (cooling) at just 50% efficiency, you need to have three engines running and maximum efficiency requires all four engines to be running.
Accu-Sim Fliers Are Well Prepared

If you have been flying our Stratocruiser, then you already have a solid foundation for managing the aircraft systems. This strong, hands-on technical background will only help you be a better captain. So you are ready to step up and fly left seat in this package.

You will now be able to concentrate on the overall responsibility of managing and flying the aircraft. This is your flight, this is your plane, this is your crew, and this is your responsibility because YOU are the Captain of the Ship.

Thank you for your interest in A2A products. There is so much in this package that we have been having a ton of fun with, that we are extremely happy to have it out in the public. We look forward to hearing about your new experiences.