"Anything, Anytime, Anywhere, Professionally."

A Guide to the Air America FSCAI Assignments for FSX and Prepar3D

Why fly for Air America?

The reason to fly for Air America in the simulator is the same reason many pilots signed up to work for the airline: it's *far* beyond the ordinary. If you're looking for an aviation environment that will challenge you on just about every flight, this is it.

Our assignments offer you flights and missions all over Laos, Thailand, and Vietnam during the period of conflict there. If you follow the directions in this document, you'll fly in an authentic simulation of the real environment.

What that means is you will often be given missions in very difficult weather, flying into and out of very challenging airstrips, and potentially facing hostile fire from a wily and often unseen enemy. The missions cover everything from passenger and cargo delivery to airdrops, and even an extensive set of offensive combat missions. Air America pilots were often ex-military and in the early 1960s some flew combat missions in the T-28's. That was controversial at the time between the decision-makers who knew about it, and eventually was phased out in favor of support from the American military. (We also provide a wide variety of USAF, Navy, and Marine missions to fly in support of the secret war in Laos as a part of this set of assignments but of course they are completely optional.)

About the Company

"Air America" was an airline which was secretly owned by the U.S. Government and managed chiefly by the CIA; primarily operating in Southeast Asia during the conflicts that occurred there in the 1950s, 60s, and early 70s. Although it was run by the CIA it operated as a civilian airline with scheduled flights and signed contracts – usually with government agencies and military services.

While the airline wasn't a secret the nature of *some* of its missions were highly classified and therefore unknown for many years. (Note that most operations were in the open and involved fairly routine passenger and cargo services.)

What was then wrapped in mystery is now well known and extensively documented in enormous detail. Many thousands of people worked for Air America and it's parent company Civil Air Transport in the course of its relatively short life from 1946 to 1975. Most of the employees thought they worked for a private company, although it was understood quietly that the CIA was involved somehow.

The story of Air America is now famous (or infamous, depending on your perceptions) mainly due to the 1990 Hollywood movie of that name and the many books that have been since published about it. (The movie, by the way, is almost universally panned as inaccurate and insulting by the ex-pilots and employees of the real Air America.)

It's a fascinating story, and a good place to start learning is the [website of the Air America Association](#).

Setting Up Your Sim for Air America.

The absolute minimum requirements for starting this simulated aviation adventure are:

- A working copy of FSX, FSX Steam Edition, or Prepar3D version 2, 3, or 4.
- FSCAI 0.9.8 or higher obtainable here:
  http://fscaptain.proboards.com/thread/3950/announcement-release-fscai-third-edition
- The free FSXatWar program along with the Southeast Asia pack for it.

You'll need to install those three programs according to the instructions distributed with each one. Two of the three are free and you probably already have a copy of the simulator program itself.

However, if you are like me, you'll want to make this experience as authentic as possible. Therefore, these add-on programs and features are all *highly* recommended to enhance the environment. Some are payware, and you may already have some or all of these.

- Realistic textures and land class. The default textures and land class in the sim are not authentic. I use ORBX FTX Global for textures and ORBX Global Vector. In fact, all the assignments are designed with these in place. Although these two are on the expensive side if you don't already have them I can't recommend either highly enough. They transform your sim ground environment into something *much* more realistic all over the world.

- A realistic weather engine. I use Active Sky. Weather is a very important part of the challenge. When flying in SE Asia for Air America I always fly with "real weather" on. This will produce in the sim weather conditions that closely resemble that described in the many Air America memoirs, and looks like the pictures taken at the time. The weather in Laos is rarely clear, especially during the monsoon usually starting in March and ending in November, roughly. Air America pilots joked that Laos has three seasons: the rainy season, the smoky season, and the foggy season. You'll find this to be a pretty realistic description, even in the sim, when you stick with "real weather" downloads from metars from actual Laos right now.

- A realistic mesh product. The default mesh in FSX/Prepar3d for this area turns the rugged forbidding mountains in Northern Laos into rolling hills! There are several more accurate mesh products out there, and while they are large, they are easy to install. Personally, I use the SRTM West Asia mesh which is available for free at Flightsim.com – search the files area for SRT2WAS1.ZIP, SRT2WAS2.ZIP, SRT2WAS3.ZIP, SRT2WAS4.ZIP, and SRT2WAS5.ZIP. These are large but worth it – with a good mesh installed, the mountains in your sim will look like the pictures on the Air America sites. Without a good mesh, they won't be realistic at all.

- If you're interested in offensive combat missions (where you shoot the enemy, instead of merely being shot at, which requires no add-on!) you may want VRS Tacpack and airplanes which are configured to use it, but FSCAI will allow you to use its weapons for free.

Optional Mods

There are several recommended but optional modifications you can do to make things even more realistic and authentic.

For one, the FSXatWar Southeast Asia pack comes with a number of Lima Sites defined, but most of these sites are implemented with VOR stations at each one. This is convenient but not realistic – the only sites that had VORs in reality at any time were L20A, L36A, and LS85.

Fortunately, this is easily fixable. In your Addon Scenery you'll find a folder named 'FSX@War Pack Southeast Asia' Inside there will be two files named 'LIMA_Site_TACANS_esci.BGL' and 'LIMA_Site_TACANS_esci.xml'. If you remove these (move them to a backup folder just in case) those VORs at the Lima sites will disappear from your sim.

You can find a ZIP file containing a set of AI aircraft for Air America and a traffic file that provides a set of flight plans for the Indochina region around early 1965, plus some enhanced airports and Lima Sites for the region here:

http://fscaptain.net/downloads/SEA_Content.zip

The Missions

The type of flying you would like to sign up for will largely determine where you are based. You will likely choose between Long Tieng, the secret base deep in the northern mountains, Vientiane the administrative capital of Laos, Udon Thani a major air base in Thailand, or any of a number of bases in Vietnam such as Da Nang in the north or Can Tho in the delta.

If you are interested in challenging flights to difficult airstrips, search and rescue missions, special operations assignments, or light combat support in small props such as the T-28 then likely you will choose **Long Tieng (L20A)**. It's not boring there. Just landing and taking off while dodging mist-shrouded mountains is enough, not to mention the hostile enemy which could be almost anywhere.

If you're more interested in the standard airline-type Air America flights, you can choose **Vientiane (VLVT)** or **Udon (VTUD)** or **Da Nang (VVDN)**. Air America has scheduled flights linking all these bases and many more, plus charter flights available almost anywhere, anytime.

If you'd like to fly combat support for Air America as a USAF pilot, the best bases would be **Udon Thani (VTUD)**, **Nakhon Phanom (VTUW)**, or **Vientiane (VLVT)**. Showing up and looking for missions in these places, plus more such as Da Nang (VVDN), Can Tho (VVCT), or Tonsannuit (VVTS) or even a carrier at Yankee Station (VVYS) will offer combat options all over SE Asia.

Illustration 1: A typical sight. The approach to Long Tieng at Sunrise (L20A)

Flying a Typical Mission

No matter where you choose to get a mission you'll use the same procedure – be sure FSCAI is running, locate your aircraft at the airport of your choice that has missions, and press the SHIFT-J key combination.

You'll see a list of those assignments available on this day, and this place, and in this airplane. If you want to see more, you can probably do that by changing airplanes or places. Different missions will appear for a helicopter, a small transport aircraft like the PC-6C or the Beech 18, a large transport aircraft like the C-46 or C-47, or a combat capable aircraft like the T-28D or the F-100D.

If you choose one you'll see a short text explaining what it's about, and the option to accept or decline it. There's no penalty for declining an assignment. It won't appear again in this session but it may appear later on in another one.

If you accept the mission the menu system will guide you through the stages to complete it. Each mission proceeds through a maximum of five stages.

The first stage is **Load.** Likely, you will load something up for delivery or airdrop, or be asked to verify your load-out for a combat mission. If you are flying a recon type mission this load stage is simply skipped.

The second stage is **Outbound**. This is where you will fly to the target area. Regardless of the type of mission there's always a "target", although that may be a location in the jungle to drop off special forces, or a village to drop food too, or a Pathet Lao truck park full of ammunition you are assigned to destroy.   Target locations are almost always specified by reference to a VOR radial and distance, which is very accurate and authentic except VORs are called TACANs in the military and they are tuned using a different system. Since our sim uses VORs we will give you a frequency, a radial *from* the VOR, and a DME distance. At that point, or near it, you *should* find your target.

As you get within range of your target (the range is defined differently in each mission) you will transition to the **Engaged** stage. When this happens you'll hear an audible signal consisting of three quick beeps. This means you know you found the right place.

You will remain engaged until you either leave the zone of engagement, or complete the task assigned to you. When you do you will enter the **Inbound** stage, where you fly back to your base or to your assigned mission destination.

When you land and stop the aircraft, you will enter the **Completion** stage. At this point, you can use the FCDU to click on the COMPLETE> to end your mission, score it, and log it.

Important: *Missions can be ended at any time you are on the ground when the aircraft is not moving.* You don't actually have to return to your base – you can end a mission anywhere. You don't even have

to be at an airport! Simply select the END> option from the menu. Your mission will be ended, scored, and logged. This feature can be helpful if for instance you are shot down and make an emergency landing in some farmer's field. You are not punished for being shot down or taking damage – that's part of the job.
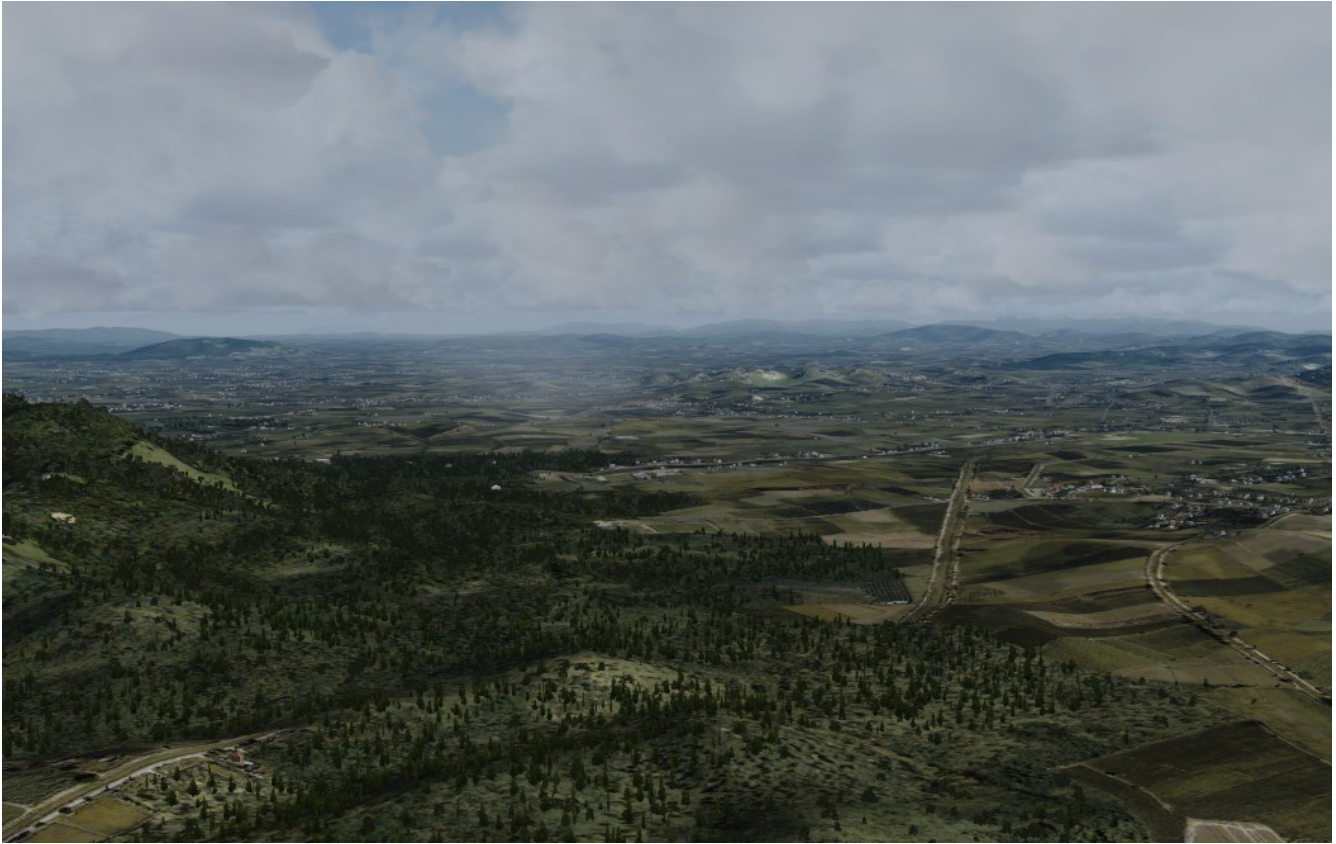

Illustration 2: Approaching the Plain of Jars. The hills you see in the middle distance are an extreme danger. If you fly over them you will be probably shot at.,

Danger Zones – what to expect, what to avoid.

So we know that in Laos during the Civil War there (which you as an Air America pilot are very much a part of if you fly into or around Long Tieng or any of the Lima sites) the communist forces held large areas of the country, and placed quite a number of powerful anti-aircraft guns there. We know that if we fly over those guns, bad things may happen, particularly if we're caught by surprise.   But these enemy guns and equipment are very hard to spot in the heavily forested mountains. By the time you actually see them, you are already too close.

In the real war, the front lines were seldom static for very long. Land constantly changed hands. The Plain of Jars, above, changed hands several times in the years 1960-1970 and often at various stages of the combat different sides held different areas at different times. Air America had an office whose job was to keep track of danger areas and brief pilots before every flight into potentially hostile territory.

Our Air America assignments reproduce some of that dynamic environment. Threat levels and threat areas will not always be the same from mission to mission. In fact, what *you* accomplish can change the threat levels and areas for subsequent missions. For example, in a combat mission, if you destroy enemy units those units will stay destroyed – they will not magically re-appear. If you do the same mission over, you won't have to worry about the enemy units you previously destroyed. This can even apply to other missions.

For example, in the picture above, we are flying into the Plain of Jars from Long Tieng in the south. The row of small hills just visible out on the plain have a battalion of North Vietnamese regular troops with vehicles and anti-aircraft dug in on them. You can't see them unless you're close. But they will see and hear you coming and will be ready for you. However, if in a combat mission you destroy some or all of those anti-aircraft guns, then even in other delivery missions you can then fly over those hills because the guns will have been destroyed. Perhaps. It can be difficult to know when all guns are taken out. This is realistic.

On the next page is a large map that shows the part of Northern Laos that covers most of the Lima sites including the base at Long Tieng and at the center, the Plain of Jars which was the most fought over (and bombed) area of the entire country. (The PDJ, as it's called for the French *Plaine des Jarres,* might be the most bombed single piece of real estate in the history of bombing.)
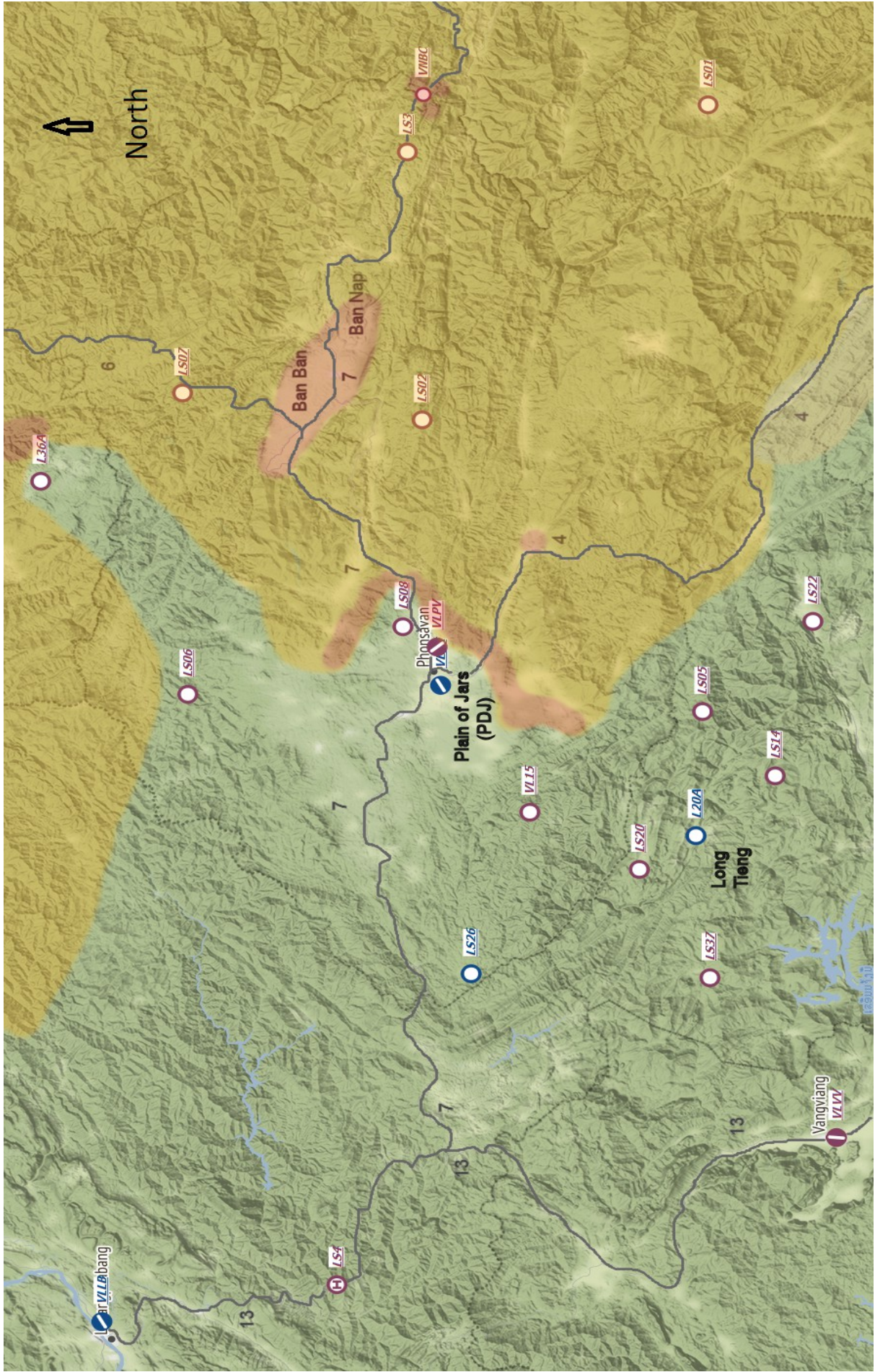
Use this map for general orientation. It outlines the major routes through the area that were used to move supplies (routes 6, 7, and 4) and most importantly it shows a yellow shading over Communist held territory, and red shading over areas where known concentrations of Pathet Lao or NVA AA guns are placed.

You should use *extreme caution* when flying over the yellow areas, and should *avoid like the plague* the red zones – unless your mission is to attack the troops in them.

In observing these yellow and red zones, don't be led to believe that the rest of the country is safe. *There is no place in Northern Laos that is completely safe from hostile fire*! However, generally, the further south you go towards the Mekong River, the safer you will be.

It's unlikely, but entirely possible, that some isolated hostile troops, guerrillas, or units can take pot shots at you when you fly over them. In many cases, you'll never know this. You can't hear the guns for the distance and the noise of your engines; and unless they hit you, or are firing tracers or flak, you don't see anything and won't hear anything unless some lead hits your airplane.

In order to jam the most detail in this small format, the map is landscape (on its side) but you should rotate it and study it well unless you already know lots about this place and this time. This map covers about 90 percent of the territory the assignments from Long Tieng cover. Of course you can also follow any number of moving maps in the sim to navigate. But they won't tell you where the enemy gunners are.

North

LS3
VNB0
LS01

LS07
6
Ban Ban
7
Ban Nap
LS02

L36A
7
LS08
VLPV
LS06
Phonsavan
VL
Plain of Jars
(PDJ)
4
4
LS22
LS05
7
VL15
LS14
LS20
L20A
LS26
Long
Tieng
13
LS37
7
VLLU bang
Vangviang
VLVV
13
LS4
13
7

When you really look at the orientation map above carefully, the first fact that will probably jump out at you is that some Lima sites in the east are *deep* in the yellow enemy held zone!

You mean I will have missions to deliver supplies and pickup deliveries and perhaps air drop things to them too?

Yes, absolutely.   In the real war, there were over 200 of these sites, and many were "behind enemy lines." The FSXatWar Southeast Asia pack has chosen to implement only a portion of these, including some of the more famous ones (like LS85) but the ones chosen are representative and are placed at their authentic location.

Those sites in the yellow zone are usually mountaintop strongholds held by the Hmong army, fierce warriors and their families that were often simply too strong and in too strong a position for the communists to profitably attack. But they are cut off from any contact with their allies and fellow Hmong and anti-Communist Laos. So a primary mission for Air America is to provide a vital air lifeline to these isolated and threatened villages. The Hmongs staged a guerrilla war against the communist Pathet Lao rebels (and the North Vietnamese army) from these bases in almost a reversal of what the South Vietnamese and the Americans faced with the Viet Cong. The Hmongs were trained, supported, and equipped by the CIA – and you are a part of the support network that keeps this army in the field, certainly the most effective anti-communist fighting force in the country.

Illustration 3: Flying back to Long Tieng. It's on the other side of that ridge ahead. Uh, oh.

So, regardless of your mission, once you're headed Inbound and out of the yellow zone, you're home free, right?

Wrong. The illustration above shows a typical flight home from a mission to a Lima site on the other side of the PDJ.   In fact I just took that on a mission I flew just before I wrote this paragraph. I didn't do anything special to set this up -- that's very typical weather in the high country of Laos. It was clear when I left a little over an hour ago! The mountains are almost always covered by either a thin, or a thick layer of stratus at various elevations but often below the tops of the highest mountains.

That ridge you see obscured by clouds is called Skyline Ridge, and it towers up to about 7,000 feet just north of Long Tieng. You have to fly around it to get to the PDJ in the north. Now, on the way back, its peaks are up in the clouds. In order to get back and land, we'll have to find a way around or over the clouds, and hope that the airfield is visible. On a clear calm day it's a challenging field to land at. The only practical approach is from the south to the single 4,500 foot runway and even then you have to fly up a valley and over a ridge and descend rapidly to the runway. A sheer cliff looms up at the north end. There is no ILS and no lights.

But typically, instead of clear and calm you get weather like this. You'll wind up picking your way through the valleys under the clouds. You'd better know the lay of the land around Long Tieng and know it well.

We might also wait up high until the clouds blow away, or divert to Vientiane. If we have enough fuel.

The procedure for missions that deliver or pickup people or cargo or that fly an area for reconnaissance should be pretty obvious. Two other kinds of missions may not be so familiar. We'll offer some guidance for you here.

Flying an Airdrop Mission

An airdrop mission is a delivery mission where instead of landing, you drop the cargo while over the target. That sounds easy enough, but it can be quite difficult to do in reality.

Air drop missions were often done by Air America to re-supply the Hmong and other tribal groups isolated by the war and by the already primitive transportation infrastructure of Laos. Because of the poor road net and the possibility of being intercepted by communist guerrillas, it was often safer and more cost effective to air drop rice sacks to remote small villages rather than try to truck them there. This was done by a variety of aircraft, often a PC-6C Porter for small loads up to 2000 pounds, and the C-46 or C-47 for larger loads.

Crews consisted of a pilot (or pilots) and a group of "logistics specialists" (referred to as "kickers") whose job it was to get the cargo out of the airplane quickly when the pilots signaled them to do it. Because of the small size of the doors airdrops often required multiple passes. In round numbers, dropping 4000 pounds of cargo from a C-47 would require four passes of 1000 pounds each, because 4000 is too heavy and large to release in one go by human kickers.

There was one exception: a number of PC-6 Porters were modified with a trap door in the rear section

with a lever that could be operated by the pilot. This allowed for a one-pass drop of the full load, and no kickers to take up weight and space. This was a blessing because when dropping in dangerous territory, having to make multiple passes can make a pilot even more nervous than he already is. (I suppose this trap door could be useful for unruly passengers but there's no record of it being used in that capacity.)

To make an Airdrop mission, fly to the target area as usual and when you have positively identified the drop zone target, open your door and make a low pass directly over the target, flying slowly and keeping your wings level. Be sure you know your minimum AGL requirement for the drop (you'll see it on the menu text for the mission) – you can't drop below that. I try and fly about 100-200 feet above that. It's usually 400FT AGL but it can be higher in dangerous terrain.

Once you release the cargo it will drop in a ballistic arc like a bomb to the ground, and because it usually has a parachute the wind will also affect its trajectory. The biggest mistake new pilots make is releasing too early. If you can see your target out the window, you are probably not there yet.

At the moment when you think you should release, signal the kickers one of two ways. You can select the "Drop" option from the menu or you can toggle the NO SMOKING switch if you have one in the airplane. The load (or a part of it) will be dropped and your airplane will instantly be lighter by the amount lost, so it may zoom upward a bit. When the dropped cargo hits the ground, the system will tell you if it hit within the target zone, or it missed. If this is a multiple-pass drop, you'll be informed via a message telling you "Ready to Drop Object 2 of 4" and you'll need to fly around and do it again until the entire load is released. Don't hit anything like a mountain when flying around. That would be bad.

Flying a Combat Mission

When we say "combat mission" we mean one in which your airplane is armed with weapons that can damage or destroy other SimObjects in the game. Many missions involve the possibly of being shot at, but we're not talking about those here. We're talking about ones where the intent is to shoot and if possible avoid being shot at, or at least, avoid being hit.

To use weapons against the enemy you have two basic choices: The built-in weapons system of FSCAI or the payware VRS Tacpack.

Actually using the weapons on your particular aircraft is outside the scope of this guide. You'll need to consult the FSCAI manual, the aircraft's manuals and/or the Tacpack manuals for that information, it varies widely by aircraft. We'll focus on the more general topics of finding your targets, and avoiding being shot down by them or their friends.

Flying in a hostile environment may be the ultimate challenge to your flying skills. It's certainly not easy. Here we'll give you some advice that you will be very wise to pay attention to.

The combat environment of FSCAI is not some simple implementation of hostile action. It has been over a year in development, and is deep, realistic, and comprehensive.   It seeks to give you, the sim combat pilot in FSX/P3D, the same set of challenges faced by real pilots in both historical and modern environments. The dangers you face are serious but they can often be overcome by very skillful flying and very careful planning based on sound knowledge of the enemy capabilities and how to defeat them. That said, there is nothing you can do to make yourself invulnerable except not accept the challenge. Even the best have a bad day.

This version addresses only air to ground and air to sea combat. We are working on the ability to engage AI aircraft in air combat, and expect to see that in a later version.

Know your Enemy

There are hundreds of ground-based air defense systems that have existed, and dozens that are still commonly used today.   The attention of the public is focused on guided missiles, but historically and to this day more aircraft are lost to the more traditional projectile-based systems than fancy stuff. Missiles are deadly and scary, but there are relatively few of them compared to the many guns you will face, some radar-guided. In any accurately designed FSCaptain scenario this will be true also.

It's helpful to think of an air defense in layers.

At the bottom are the smaller guns – everything from an angry farmer's rifle to the quad-50 improvised units the Viet Cong put together from captured weapons in the Vietnam conflict. In FSCaptain you won't see these guns except you may catch a glimpse of a muzzle flash, and you won't see their bullets. But anytime you fly under 2500 feet or so in the vicinity of the enemy, you can assume the air is filled with invisible lead slugs.   A single bullet is not extremely likely to do major damage, but it can – the so-called "magic BB."

The next layer is the smaller caliber Anti-Aircraft (AA) guns. These typically fire tracers and you will see them. The one you'll see implemented most often in FSCaptain missions is the Soviet-era ZPU-2 which is effective up to about 5,000 feet. These are 14mm rounds and they can tear a pretty decent sized hole if they hit you.

The third layer is the "flak" layer. These are larger caliber AAA (Anti-Aircraft Artillery) and some of them are radar-guided which greatly increases their accuracy and ability to shoot you even in clouds or at night.   FSCaptain typically implements the Soviet ZSU-37 which fires a 37mm explosive round up to an effective range of 10,000 feet.   In those FSCaptain missions that include FSX@War you may encounter even more dangerous flak, particularly the KS-12 and KS-30 which are effective to 15,000 or even the S-60 which is radar-guided.   Flak is visible (and audible if close enough) air bursts near you. There are many flak guns that go higher but FSCaptain does not equip its combat vehicles with them at the present time – although they are provided in FSCAI.

The fourth and most scary layer is the heat-seeking guided missiles. These were used in the last stages of the Vietnam conflict, but not in Laos. None are implemented in the FSCaptain/FSXatWar Se Asia missions, so thankfully you don't have these to worry about!

Memorize these zones. You need to know them. Seriously.

Guns – effective in a 1,000 meter range up to 2,500 feet. Invisible bullets.

AA Guns – effective in a 2,500 meter range up to 5,000 feet. Tracers.
Flak Guns – effective in a 3,000 meter range up to 10,000 feet, but not below 1,000 feet.

You can fly under flak but you face guns and AA guns down there. Above 10,000 you are safe from everything except the heavier flak, KS-12, KS-30, and S-60 which go up to 15,000.   You are pretty safe from everything FSCAI will throw at you above 15,000.

How to Avoid Getting Shot Down

Obviously the safest thing to do is to stay away from as much of this nastiness as you can. Hopefully your mission text will give you a general idea of where the major threats are. But this isn't perfect, and there is no magic that will help you. Combat vehicles are hard to see from the air. They often hide, for obvious reasons. This reminds me of the advice I was given on how to tell if a snake is poisonous – look for pits under its eyes. If you are that close *you are too damn close already.* The same applies here. Often getting low enough to identify vehicles means you are already in range and they have probably heard you coming and are lining you up in their sights as you approach.

There are some ways around this problem, but you are likely to need help. Read on.

Your mission is to damage the enemy, and therefore you will have to expose yourself to their defenses. The next best thing to avoidance is to target the air defenses first and take them out, then the rest are sitting ducks.   This is not very easy to do, for the above reasons, but again, there are ways – they will be discussed shortly but not before we cover more basics, because the more sophisticated methods are dependent on help being provided by elements of the mission and they may not be there every time and they are not perfect.

But let's talk about the basics of survival in combat against ground defenses.

Despite all the modern technology, the majority of air defense weapons are operated by human beings, and they depend on their eyes, ears, and brains. Moving aircraft are quite difficult to hit from the ground using ballistic projectiles.   AA guns have sighting systems and computers to help, but still, lead must be computed accurately and it's often a long way from the gun to the target. This is why there are so many of these type guns – they depend on quantity of lead as much as quality of aim. And at that they are very effective.

Your main techniques all involve speed, distance, and angle. Generally, the faster you are the safer you are – but angle offsets this. A jet roaring by an AA gun at 300 knots is almost impossible to hit unless you are very lucky. But the same jet flying straight at – or straight away from – the gun might as well be stationary no matter how fast he's flying. The only advantage of speed then is that it reduces the time you are in range and exposed.   Distance is very important – the further away you are from the shooter the less likely you are to be hit. This is true both in the horizontal and the vertical planes. Stay high, and stay away – except that you often have to violate that rule to get them.

This is where I warn you about a sin I commit – pressing the attack. The closer you are the more likely you will hit your target. But the more likely they are to hit you. I have been tagged more than once after the bombs were dropped. I got them, but they got me too. This is a judgment call, but almost every time I have been the victim of some gunner it's because I got too close trying to be sure I blasted them.

Another ally you have against the Mark I eyeball of your opponents is visibility – or lack thereof. The less they see of you the less they can hit you. Take advantage, if possible, of clouds and darkness and even the sun behind you. *Always be sure to turn off all your aircraft lights before you enter the danger zone.* Nothing like giving them something bright to aim at to help them out!

Memorize those numbers for the weapons systems. Only expose yourself to what you absolutely need to. I have seen videos of sim pilots that seem to love very-low-level bombing runs. Well that's only sane if you are bombing a factory that's *only* protected by flak and/or missiles – it's perfectly sensible and right to go under those. But if there are gunners scattered all round, as there often are, you are exposing yourself to a hail of lead that you are trying to fly through and hope nothing hits you. Good luck with that. Know your enemy – knowledge is power, and survival.

How to Destroy Air Defenses

Well at least the *concept* is simple. In the FSCAI world, all weapons are attached to a SimObject. Destroy (or damage) the object, and the weapon won't work any more. Easy, right?

In the rare case of you going mano-a-mano against a single defender, it's really not too bad. Just avoid staying in a predictable flight pattern, and yet somehow put your bombs or rockets or cannon fire on target.

One big advantage you have is your first attack. It can take some time from when they first notice you until they are ready to fire. Take advantage of this time and they might not get off a shot. How long this takes is dependent on the skill of the ground unit. Ground units are assigned different skill levels by the mission script. They vary from 1 (a raw barely trained recruit) to 9 (a deadly expert). An expert can be ready as quickly as 20 seconds after you get in range. Recruits can take 2 or 3 minutes. Also skill affects accuracy of course also, as well as re-loading times and other things.

But – and this is the big but – they are rarely caught out alone. Any decent air defense has multiple units at each layer. Lots and lots of guns on the ground, many AA guns, some flak, and maybe a few missiles. Flying into all that is not likely to end well. For you, at least. They may well get a medal or at least an attaboy.

So you have the attack pilot's conundrum: how to get at them without getting too close to them.

There's the modern acronym SEAD – Suppression of Enemy Air Defenses. This is usually a carefully planned assault by multiple units in a carefully choreographed sequence.   In your case, it's likely to be you and maybe a few good friends in a multi-player setting. But you can still do some SEAD, even alone. How depends on the tools you have available.

But this is not as easy as it sounds. You need some help. And the FSCaptain/FSCAI system can provide that help, realistically. Many combat missions have built-in forward air controllers - FACs and/or JTACS. These special units can be on the ground or in the air. They are your eyes. A FAC – Forward Air Controller – can mark air-defense threats or other targets with colored smoke so you can see where they are and bomb them from altitude or target them by other means, depending on the aircraft.

The FAC system has realistic limitations and it is not a magic spell to seek and destroy your enemies.

First, a FAC has a limited visual range. This depends on many factors – mostly the terrain. A FAC in a jungle is not going to see very far, as opposed to one in a desert. The FAC is a SimObject given that power by the script. The location of the object will determine what enemies are seen and what are not. The FAC may report he sees no enemy threats. That doesn't mean there isn't one – it means he can't see one. Also, if the FAC unit is destroyed either by enemy action or friendly fire (that is, by *you*) he won't be available to help you.

Yes, you can destroy your own units. It's not good for your score or your reputation, but it does sometimes happen.   The mission information should indicate where your friendly forces (if any) are located. Also, the FAC/JTAC can pop blue smoke on friendly positions so you can see roughly where they are. And of course the FAC won't target his friends. But sometimes friends and enemies are close together on the battlefield, and bombs go astray, and they are no one's friend once they leave the aircraft.

The vast, vast majority of weapons in the Air America era were unguided and visually aimed by the pilot in the cockpit. (The exceptions were laser-guided bombs that first appeared in 1969 in very limited quantities, and the earlier "Bullpup" missiles which were guided by a radio-control joystick operated by the pilot – an idea that sounds better than it actually worked out in practice. Laser guided bombs are simulated by Tacpack, Bullpup missiles aren't.) It's likely your attack plane will be able to use some combination of guns, unguided rockets, and iron free-fall bombs.

Guns: These are the most accurate and easy to use of the air-to-ground weapons, but they have the major drawbacks that they usually cover a small area, require quite a few shells to damage targets, and require you to be pretty close to the target to accurately aim them at anything specific.

Rockets: These look and sound spectacular when fired and when they explode, specially when they are fired in salvos which they usually are. (They are often used in publicity footage showing devastating military air-to-ground weaponry.) However, they are fired in salvos because they are highly inaccurate and very difficult to aim from a moving aircraft. So many are fired at once in the hope you'll hit *something*. Not only that, but in the case of the commonly used 2.75 inch rockets, the warhead is so small it's not good for anything except "soft" targets, that is, ones without armor. The 5 inch "Zuni" rocket is more deadly and can be used against hard targets, but it isn't any more accurate than its smaller cousins. Also, you need to be close to the target to hope for hits, which is always a dangerous place to be.

Bombs: Although iron free-fall bombs are the hardest weapons to land on a target, they are the most effective weapons Vietnam-era attack aircraft have. Bombing is a difficult art, as generations of attack pilots have found. In the modern era the use of computed impact points on HUDs make the use of free-fall bombs fairly easy. Without that aid it's a black art, as you will find to your frustration if you have ever tried it. Many sim pilots resort to the very-low-level pass dropping the bombs just as they pass over the target. This will increase accuracy, but in the FSCAI era of simulated combat it exposes you close-up to your enemy's guns. Dive bombing from altitude is much safer, but much harder to do. The vast majority of free-fall bombs miss. That's a fact. Looking at pictures of any WW II or Vietnam (or Korean) targets and you'll probably see they are surrounded by craters from missed bombs. Fortunately, even a missed bomb does quite a bit of damage. A 1000 pound high explosive bomb dropped in the center of a football field will devastate everything in the field and severely damage all the stands around it. A decent-sized bomb can land 100 feet from a tank and destroy it, and 300 feet from a truck. There are also cluster bombs and napalm which will destroy a wide area of "soft" targets (but which are not as useful against armored targets or bunkers.

At some point, after all the planning and preparation, you are going to go in for the attack.

First, double-check to be *sure* you *know* where your target is. It's very easy to become disoriented while flying a fast attack plane in a combat environment, even on a clear day; and often in your typical environment here you have to factor in low clouds and high mountains.

Execute the attack as quickly as as *swiftly* as you can, using maximum speed. Try to not fly in a straight predictable path if you're being shot at. If possible, attack only once, then get out of there. The gunners will be much more ready for you and more accurate on subsequent passes. It's really more important to survive for another try later than it is to hit the target.

Remember you must keep your wings level when releasing weapons or they will not likely hit the target but go wide. Don't release bombs too early or too late or they'll miss short or long.

To be successful takes practice. I recommend a practice range and using it often before you have a go at this for "real."

The Airplanes

In this Air America simulation, you are a pilot. That's the whole point. While the real airline had many other jobs, here we are only flying. That means that a large part of the experience is related to the airplanes that you'll fly.

The FSCAI missions related to Air America do not require that you use any particular airplane to complete the mission. You're free to fly whatever you like that you have in your inventory, assuming it meets the practical requirements to get the job done. For example, many delivery missions require you start at Long Tieng (Lima Site 20A) with its 4500 foot runway, and fly to another Lima Site, one with often a dirt strip less than 2000 feet long (many less than 1000!) - for this, you need an aircraft or helicopter than can do that job, obviously a B737 or A320 isn't going to cut it. You could, however, use a 737 to fly from Long Tieng (L20A) to Vientiane Airbase (VLVT) which is a typical Air America flight, but that wouldn't be realistic at all. You'll get more from this adventure if you fly the real airplanes. You have a pretty wide choice.

For amazing detail on each and every individual aircraft flown by the real airline, plus a general description of the typical role of each type, go here.

Not all historically accurate Air America aircraft have a simulated version. And the quality of those that do varies widely, from excellent to marginal.

I'll review here the ones I actually fly on Air America missions, and give you advice and help on where and how to get them for yourself.

This Air America PC-6/C-H2 Turbo-Porter was powered by a Garrett AiResearch TPE 331-25D turboprop engine. Air America flew Turbo-Porters between 1965-74.

The Pilatus PC-6C Porter.

The Porter was a very commonly used small turboprop aircraft because of its amazing ability to takeoff and land on very short, rough strips. It's slow and has a maximum payload capacity of about 2000 pounds with minimal fuel for a short trip. But it will get in and out of places almost no other fixed-wing aircraft can.   To travel to the really small Lisa sites you either need this, or a helicopter.

It bears repeating that although Air America has a reputation for paramilitary operations, the vast majority of missions were delivery and pickup type missions that can only be classed as humanitarian. The Porter and other aircraft were used daily to supply food and medicine to many thousand of isolated civilians trapped or displaced by the war, both directly and by airdrops when landings were not feasible.

The one I fly is from Tim "Piglet" Conrad and is available as freeware at flightsim.com, search for 'pc-6c_h2turboporter.zip' – the default livery is the Air America one!

Beechcraft C-45

The Beechcraft C-45 (Beech-18)

Much of Air America's work involved transport of small groups of passengers (sometimes VIP's like Bob Hope or Miss America) or military or government officials; or relatively small amounts of cargo. For this, the standard workhorse was the C-45 or Beech 18. It would seat 8 to 10 passengers, and can carry about 2500 pounds of cargo, depending on fuel needs. It's rugged and suitable for any missions except those that involve trips to the very short Lima sites. I regularly fly it between L20A and L36A, or VLVT or VLLB, as well as longer trips to the Thai air bases or even to Vietnam.

Air America probably flew more of these than any other single type. As the history says "In the sixties and early seventies, Air America was probably one of the world's largest operations of Twin Beeches."

Amazingly, there is a dearth of payware Beech 18s as of this writing. The one I use is the FSX conversion of the FS2004 D-18S by Milton Shupe. It's available at Sim-Outhouse.com in the library. While there is a repaint for Air America for the FS9 version, I haven't found an Air America repaint for the FSX model. There are several blue and white ones that come close, however, and a talented painter would probably have little trouble doing one.

The Bell UH-1C and UH-1H Huey

Air America had many helicopters in its inventory, in the early days mostly the Sikorsky H-34, and later on more and more that symbol of the war in Southeast Asia, the Huey.   Air America documentation refers to the Huey by its civilian designations, the Bell 204 for the smaller C model, and Bell 205 for the larger H model.

In addition to basic transport of people and supplies, the helicopters (including the Hueys and the H-34 and other types) were used for search-and-rescue missions as well as for special assignments involving the pickup and delivery of special operations squads deep in hostile territory.

In the period before 1965, when the USAF started seriously moving in rescue teams and assets, Air America was the primary means for performing rescues of downed pilots from all services as well as the Royal Laotian air force. Air America pilots risked their lives (and sometimes paid the ultimate price) to uphold the "Airman's bond". The airline's choppers pulled hundreds of men from the jungles and mountains before the hostile forces could get to them.

This wasn't just an ad-hoc operation, but highly organized and professional with standard procedures.

The Huey I fly for Air America is the payware Milviz Huey available from www.milviz.com. There is an Air America repaint for it (it says for the "Nemeth Designs/Milviz Huey" but it will work well for the current model).

Curtiss C-46F Commando, Air America, s/n 22579 N67984, Naha, Okinawa, ca. 1965
10.10.2007 M www.wings.de.ms

Curtiss C-46 Commando.

The Commando, a World War II airplane, was the most used transport aircraft in the Air America fleet (with the possible exception of the C-123 provider) mostly because of its ability to carry a big load of cargo and get it into and out of short runways.

The C-46 was used to transport passengers all over Southeast Asia on scheduled routes and on many, many charters. It was primarily a cargo aircraft, capable of landing on a 2,000 foot runway, which opened up all of the larger Lima sites to it. When large amounts of supplies had to be delivered, or a large number of troops had to be moved, or people evacuated from a war zone, the C-46 was usually the go-to option for Air America.

The C-46 was often used in an air drop role also.

The one I fly for the company is the Just Flight/Aeroplane Heaven payware version available at Just Flight. The airplane comes with an Air America livery like the one shown above.

Douglas C-47 Skytrain.

The beloved and ubiquitous Gooney Bird also made up a significant portion of the company's transport fleet. Like the C-46 it was used for both passenger and cargo transport all over Southeast Asia. In many cases the roles of the two aircraft were interchangable. The C-46 was larger and could carry more, but the C-47 was more reliable and easier to fly.

Even more commonly than the C-46, the C-47 was used in the Air Drop role.

The C-47 (DC-3) I fly for Air America is the excellent Manfred and Team C-47 Version 3, available at Avsim and on many other typical slight sim websites. An Air America repaint for airplane 994 (shown above) is available at Sim Outhouse.

North American T-28D Trojan

In the relatively rare cases where Air America flew combat missions, they would have flown the T-28 either unmarked or in Royal Laotian Air Force (RLAF) colors.

The T-28 was a light attack aircraft, capable of delivering bombs or rockets, or strafing with a pair of 50 caliber machine gun pods mounted under the wings. This was the standard and practically the only combat aircraft fielded by the RLAF. A squadron was based at Long Tieng and would typically fly close air support or interdiction missions on or near the PDJ.

The T-28D that I fly is the excellent one from Ant's Airplanes, and is outfitted with Tacpack so as to be able to drop 500LB bombs, fire 2.75 inch rockets, and strafe with the guns.

The T-28 is slow and vulnerable, however, and you're well advised to stay away from heavily defended zones.

The North American F-100D Super Sabre.

No, Air America did not own or lease or fly any of these ground attack jets. I've included it here as a typical representative of a period appropriate combat aircraft that was flown in support of Air America and RLAF activities, and in a close air support or interdiction role in Northern Laos.

There are a great many missions available from such airbases as Udon Thani (VTUD), Nakhon Phanom (VTUW), Da Nang (VVDN), Tonsanuit (VVTS), and Ubon Thani (VTUU) that allow you to fly typical Southeast Asia combat missions, and many are related to the areas Air America operates in, and many are not.   (You also have "Rolling Thunder" [strategic strikes in North Vietnam] missions available from Da Nang, Nakhon Phanom, and from Yankee Station (VVYS) in the Gulf of Tonkin.)

For our purposes with Air America, being able to call on air support is very useful! For instance, the Lima sites LS36A and LS08 are closely besieged by communist forces, making deliveries and pickups there very dangerous. In fact, both sites are under sporadic but dangerous mortar bombardment!

Using the T-28 to try and clear these situations is not advisable. The airplane is too vulnerable and isn't likely to survive any close air support in such a heavily defended environment, especially around LS36A – I know, I tried. I was able to make a dead stick emergency landing at the strip, and survived rolling off the end of the runway into the woods with no brakes!

Jets like the F-100, F-105, and F-4 were called "Fast Movers" in the Vietnam conflict, and therein lies their advantage. Using the F-100, I can swoop down fast and unload a salvo of 750 pound bombs and zoom off before the ground gunners even get ready. If the bombs are accurate, then a few strikes like this and suddenly it's much safer to land and deliver supplies to LS36A.

The F-100 I use for these missions is the excellent, wonderful Milviz F-100D. They also have an excellent F-4, and both that and the F-100D are "Tacpacked" for offensive operations.

Bombing with no CCIP modern devices is challenging though, and takes lots of practice to be able to hit a target, and even then you'll miss a lot – like the real pilots did.

[This is the end of the Air America Guide for the FSCaptain Assignments Pack]