

# **Making Pathfinder**

**By Dave Gundlach**

## **The Idea**

I was interested in doing a World War II mission on Operation Neptune, the paratrooper assault night before the D-Day beach head invasion. I did some research on the Internet and found some maps showing routes and other useful information. I focused in on the Pathfinders. I felt this was more of the scale I could do in a mission. I have been thinking of doing this mission for some time, so watched any documentaries or TV shows on D-Day. The ideas for the mission came from many sources.

I selected the flight of the pathfinders of the 82<sup>nd</sup> Airborne. Their DZ was near Ste-Mere-Eglise. The Pathfinders were in groups of three C-47 aircraft. I found several maps showing the launch fields, and landing zones. With some actual accounts of the headings, directions, altitudes, weather conditions and cloud heights, I tweaked the way points to as close as I could to the actual mission.

I could not find any information on the navigation used, but I noticed the route passed three Non Directional Beacons (NDB). The line from COM to PB almost lined up perfectly with the leg of the flight out over the English Channel.

Some of the accounts of the time varied from source to source, but this may have been due to the time zone used for reference. The minutes seem to match with the simulated flight in FSX.

## **Navigation**

At first, I felt the challenge in the mission was the navigation. I had planned to remove the way point markers. But as I added more, and tested, I liked these markers. Each aircraft had a navigator so I decided to put him to work, as long as the player followed the route and altitudes that would allow visibility of the ground. This would allow for intermediate level players to enjoy the mission. There is always the option to turn off the mission compass and markers, so if anyone wanted the challenge of navigation, it can still be done.

## **Weather**

When I set FSX to 5 June 1944, there was a nice full moon just as it was on that date. The accounts did not mention any weather except for near the French coast. Here there were clouds that built up and the pilots had to come down from 1500 to 700 feet to get below them. There were no weather stations on this route near France, so I had to set all weather stations to have the low clouds, and make the areas clear over the weather stations on the route. It wasn't exactly what I wanted, but it worked.

## **Effects**

Up to this point, all my missions have used only aircraft and sounds and effects that came with

FSX. Several accounts talked about the small arms tracer fire and Anti-Aircraft (AA). The AA was easy, I just used the explosion from the Amazon Mission, and put it in the air. It has a real nasty sound when it fires, and was just perfect for AA. But I had nothing that looked good for tracer fire. I did some reading and experimenting with the effects tool and modified some fireworks to create the tracer effect.

FSX has no paratroopers. At first I used a flower bag and a target on the ground to simulate the drop. But the box with flower bomb just wasn't looking right. Since I did some other effects, I decided to modify the flower bomb to make my simulated paratroopers. I modified the text in the drop objects window, removed the splat sound, and changed the animation from a puff of dust, to a green dot to mark the actual landing location.

### **Aircraft**

At first I planned to use just a DC-3. When I added the AI aircraft, it just wasn't right. So it was time to read up on how to skin a plane. The idea for the paint job came from watching Band of Brothers episode on the D-Day paratrooper drop. I noted in the background, the invasion stripes looked like they were painted on with a brush quickly. As I thought about it, there were many C-47s, and I would expect the paint was most likely painted by hand in the field. So I tried to replicate the brush look, with no masking.

I found an actual film video of the C-47s taking off for the invasion. I noticed the only lights that were on were the red and green navigation lights on the wingtips, and the white light in back. I could not find any control of the AI lights, they just came on at night. I removed the beacon and landing lights. Next problem was blacking out the lights on the AI when flying over the channel and DZ. I solved this from what I learned with the effects. I created a nav-light that would turn off after a set time. I found this time to be just over one hour. Next, I found a way to turn the lights on again when they return, also by using timing. I found it interesting flying with the blacked out AI aircraft, they are very hard to see, and sometimes surprise you when you look out your window. I put a Point of Interest marker on each AI aircraft so I could track them in testing. I think I will leave this in place. They can be located using the mission compass.

### **Mission Time**

The only final problem is the length of time it takes to do the mission. The full takeoff to landing time is 1 hour and 40 minutes if you follow the AI aircraft. I feel the goal should be about 45 minutes. At this writing, I have not solved this, but believe I am close. When I create a Save, I should be able to use the files from the save to create a version of the mission. When I finish the mission and complete testing, I will fly the mission and create the save point. The short mission can be ended after the drop for about a 45 minute mission. There will be four options, the full takeoff to landing, takeoff to just after the drop, in-flight to just after the drop, and in-flight to landing. When testing, I use time acceleration and the auto-pilot to speed up the long flights between way points.

## **Music**

I used the Royalty Free music by Kevin MacLeod. He has a great web site with many pieces of music that are free to use. It can be found here: <http://incompetech.com/m/c/royalty-free/>

The files were in MP3, so I had to convert them to WAV files. I used four pieces, A small part of 'Crisis' was used in the Introduction. I removed a small part of the ending of "Unrelenting" to make this loop from the time you fly over the coast, until nearing the DZ. Then over the DZ, "Action" plays. And after landing "Thaxted" is used.

## **References:**

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