

AVSIM Commercial FSX Aircraft Review

A-7D and A-7E Corsair II



Product Information

Publishers: [Razbam](#)

Description: Vietnam-era attack jet.

Download Size:
234 MB

Format:
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Simulation Type:
FSX

Reviewed by: [David Wilson-Okamura](#) AVSIM Senior Staff Reviewer - October 31, 2010

Introduction

The A-7 Corsair II was developed for the US Navy during the Vietnam War, to be launched from carriers and attack ground targets. Named after the F4U Corsair, the famous "ensign-killer" of World War II, the A-7 had its own nickname, SLUF. I am not going to say what SLUF stands for, but the first words are *Short, Little, and Ugly*.

With a top speed of 600 knots, it wasn't fast either (compared with the supersonic F-8 Crusader or the MiG-19 Farmer). Rather, the A-7 was designed for precision. It had an early weapons computer, linked to an early head-up display (HUD), an inertial navigation system (which calculates an aircraft's position based on the distance and angle traveled from an initial starting point), a moving map display, and terrain-avoidance radar. As a result, it tended not to get lost, and it placed its bombs close to the target.

For the next twenty-five years, members of the US Navy and US Air Force flew the A-7 on missions over Vietnam,

Cambodia, Lebanon, Libya, Panama, and Iraq. After the first Gulf War, the US withdrew the A-7 from service. (It was replaced by the F/A-18 Hornet, which combines the attack and fighter roles in one plane.) But the A-7 is a rugged, as well as ugly, little feller; and in the Hellenic Air Force it is still flying.

Early this fall the Razbam team, which specializes in naval aviation, released the first volume of an A-7 model for Flight Simulator X. It includes the A-7D, as used by the US Air Force; the A-7H, which was exported to Greece; and the A-7E, which was launched from carriers by the US Navy. I spent most of my time practicing carrier ops, but I also tested the weapons and navigation systems, the autopilot, and the radar.

Installation and Documentation

I received the A-7 as a download. The installer program had trouble finding my FSX folder -- this is a common problem with 64-bit Windows -- but once I got in the right place everything went smoothly.

The manual is 84-pages long and well-illustrated, with all the tables and performance charts that you need. (The real manual, which you can purchase for about US\$13 from flight-manuals.com, is 746 pages.) Unlike some manuals, that tell you just to "monitor" a temperature, the Razbam manual says what the temperature should be.

Just about every inch of the cockpit is pictured and labeled, with an explanation of the switches. Where something's not implemented, the manual tells you that too. The most complicated panel is the tactical computer; it took me a few tries before I could enter a waypoint correctly, but if you go step-by-step, and read the instructions carefully, they work.

The one thing the manual doesn't include is a table of contents. A credit to Wikipedia, which furnished most of the text on page 3, would also be in order.

External Models

There are three variants here: the US Air Force's D version, the US Navy's E version (equipped for carrier launches), and the Hellenic Air Force's H version (which lacks a probe for in-air refueling).

Test System
Core2Quad Q6600 @ 2.4 GHz
4 gigabytes RAM
Nvidia 8800 GT (512 Mb)
Samsung 20" widescreen LCD (1680 x 1050)
Windows 7 (64-bit)
TrackIR 3 with Vector Expansion
CH pedals, yoke
Saitek X45 throttle
Sidewinder Precision Pro joystick
Sound Blaster X-Fi XtremeGamer sound card
Logitech X-540 5.1 speaker system
Flying Time:
22 hours



Blockish lines





Fine details



Realistic reflections

The real A-7 presents a blockish aspect; unfortunately, to say this model reproduces that does not sound like a compliment. In fact, though, there's lots of very fine modeling, especially around the undercarriage, and some notable animations: a massive speed brake (that has to be retracted for the wheels to come down), a refueling probe, a retractable step for the pilot, leading as well as trailing edge flaps, and a small windmill that emerges from the fuselage to generate emergency power.



Speed brake deploys under the fuselage

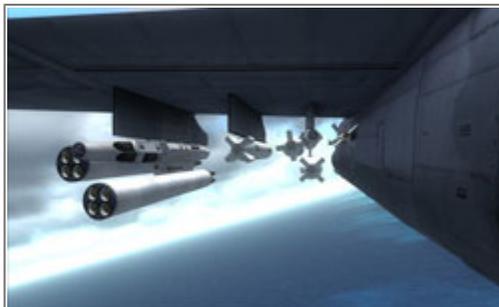


Emergency power generator



Refueling probe extended

Perhaps the notable animations are the fuel and weapons stores that can be mounted under each wing. These are configured on the ground, with the engine off, in various but not unlimited permutations; that is to say, you can configure only the weapons and fuel permutations that were available in the real world.



Weapons loadouts

The most interesting weapon, visually, is the Mk-82 "Snake Eye" bomb. When dropped, the Snake Eye opens up four spring-loaded airbrakes, which slow the bomb and give the bomb-dropper some extra seconds to make his getaway; this is helpful when you're attacking targets from very low altitude. Weapons can be fired singly or in pairs.



Unfortunately, there are no explosions or sound effects; there's talk of adding these in a mission, but until then we're all firing blanks. If I understand the manual correctly, in-air refueling will be implemented in the same way, through missions but not in free flight.



The package ships with nine liveries: four for the US Navy, three for the US Air Force, and two for the Hellenic Air Force. Surface textures are exquisitely detailed, and surface reflections are realistically tuned: not too glossy, but not too dull either. There's also a paint kit; as of this writing, more than a dozen repaints are available from the AVSIM and Flightsim.com file libraries.

Virtual Cockpit

The virtual cockpit (VC) is just as impressive as the exterior model. The D and E versions have different layouts, but largely identical functions. Textures are detailed and sharp, not only for the gauge labels but also for the leather padding around the canopy frame. Steam gauges are modeled in 3D, not only for good looks, but also for smooth operation and higher FPS.



There's a three-axis autopilot, which can be used to hold heading and altitude. As is mentioned on the product web page, the real A-7 was equipped with an early version of autoland and autothrottle; what's not mentioned (and ought to be, in fairness to customers) is that Razbam's model does not implement either system. You can receive ILS signals, but not from any of the carriers (which you can do with the VRS Super Hornet or Jivko Rusev's freeware HUD for the Acceleration F/A-18).

While we're talking about limitations, we should also say that the only way to start the engine is with control-E. And when you shut down, there's no way to go completely dark; you can turn off the electrical system, but some instrument lights will still be illuminated. Also, your wing stores aren't visible: whatever you're carrying, whether it be fuel tanks or bombs, your wing pylons will look empty from the VC, though you can still see the load outs in spot plane view.



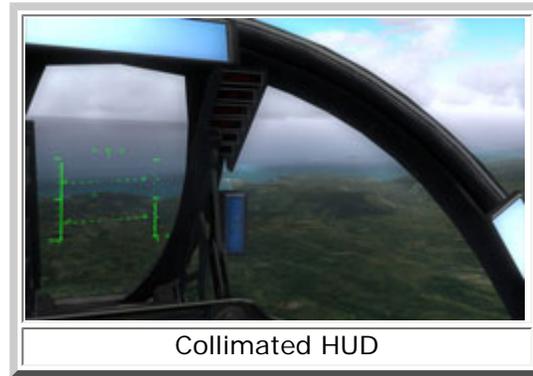
On the plus side -- and it's a much longer list -- Razbam has modeled the A-7's navigational systems in considerable depth. An attitude direction indicator (ADI) combines information that would normally be spread across two or three separate instruments: an artificial horizon, an OBS, and a gyroscopic compass. There's also a souped-up horizontal situation indicator (HSI) which, in addition to the usual VOR data, also displays bearing and distance info from NDB sources and the tactical computer.

The tactical computer is similar to a modern GPS, except that it derives your position internally, using gyroscopes and accelerometers, instead of externally, with reference to satellites. Like a GPS, it displays your aircraft location on a moving map, and it can display various data about your flight, including navaid distance and strength, VOR bearing, true airspeed, groundspeed, and distance to the next waypoint. This implies that you can enter a flight plan, which is true. The problem is that it can't *read* a flight plan. To enter the waypoints in the tactical computer, you need to open up your flight plan in Notepad and enter the longitude and latitude for each waypoint. Most users will wish there were an easier way; still, it's doable, and it's realistic.

Another notable feature of this model is the radar, which has several modes. The first mode, beacon, functions like a modern TCAS, to display traffic (or bogeys) in the air. There's also an air-to-ground ranging (AGR) mode, but it doesn't bear much resemblance to its real-world counterpart; it can't lock onto a target, and the only targets it can see are AI planes taxiing on the ground. The terrain avoidance mode, which can plot obstacles at or above the aircraft's current altitude, works better and is genuinely useful, especially for night operations.

Finally, there is the head-up display (HUD), which can show flight path; airspeed; vertical speed; radar altitude; barometric altitude; angle of attack; pitch angle; a steering cue for lateral navigation; and aiming cues for bombs, rockets, and guns. The bombing cues even compensate for crosswind. Engine warnings are displayed here as well, though I've never seen the pull-up command (a big X) that is described on pp. 60-61 of the manual, or the pull-up

anticipation cue (pictured on pp. 74–75).



Collimated HUD

The big news is that, with the most recent patch, the Razbam HUD is collimated (like the Aerosoft and Iris F-16s). What does this mean in practice? If you have TrackIR and you move your head, the flight path marker (FPM) will still point to where you are flying. This is absolutely essential for accurate bombing. It also helps with carrier landings, because you can see, exactly and at all times, what section of plane-sized deck you are hurtling down to.

Sound

I'm happy with the engine sounds, including the start-up and shutdown. And the landing gear makes a good, satisfying *thunk* when they lock into place. What I'm puzzled by are no sounds for wing fold, tail hook, and flaps. Admittedly, there are other payware models that don't have sounds for wing fold and tail hook. But no flaps? Since this is an attack plane, rocket and cannon sounds would be welcome too.



Good engine sounds

But wing fold and flaps are silent

Flight Dynamics

I'm not a pilot. I have no flight hours in the real world, except as a passenger. Nevertheless, I have two observations to make about the A-7's flight dynamics: one positive and one negative.

Let's have the bad news first: the Razbam model does not lose weight when you launch rockets or drop bombs. You can adjust this manually, using the default load editor, but to do that you would need to know the bomb weights, which the manual doesn't specify. Why does this matter? To land on a carrier, you have to get your weight down: by burning fuel, by purging fuel, or by getting rid of your weapons payload.

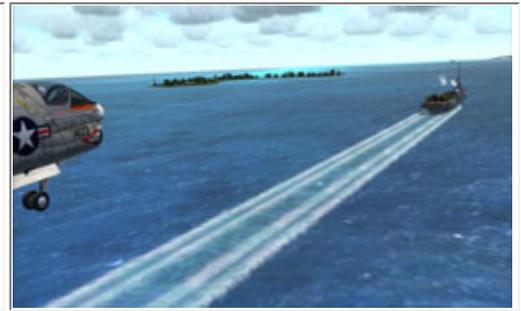
The first two methods are effectively modeled here, but not the third. It's not a deal breaker, and I acknowledge that making it work automatically would require additional programming. But it does count as a limitation.



You can't run full throttle for more than a few seconds



But keep your speed up on approach



What I like about this model is the challenge of managing the engine. When you're close to the water, you have to keep your speed up or you will fall into the drink. The engine spools up slowly and there's no afterburner, so don't count on a sudden throttle surge to get out of trouble. At the same time, you can't run the engine at full power for more than a few seconds at a time. If you do, you'll overheat and lose power altogether. Back in the drink...

Does this sound too complicated? I consider myself an average pilot (by flight sim standards), and I can say that, with a few hours of practice, it becomes second nature. The question is: do you have a few hours, and are you willing to spend them flaming out or falling into the wake of an aircraft carrier whose deck you just missed or whose stern you crashed into because your speed was too low and you couldn't maintain altitude. If the answer is "No, I want to have fun right away," then buy something else. There's no rule that says you have to spend your free time being frustrated.

But the frustration is temporary; and the satisfaction, if you stick with it, is lasting. It takes a few hours, but you do get the feel of it; and when you do, you can make the A-7 do what you want -- mostly.

Performance

On my hardware, frame rates were medium. In good weather, with minimal autogen, I stayed close to my target frame rate of 20 fps. With more clouds, and more complex scenery, I averaged about 15 fps.



Frame rates are higher in clear weather

Clouds compete with the model for CPU cycles

Conclusion

Razbam sells the A-7 for \$35 (US). Some of its features won't be realized until someone creates a mission for it; and it's not clear when that mission will be available or how much it will cost. I've pointed out some things that don't work, or that don't work the way I think they should. I've also mentioned the craftsmanship of the external model, the in-depth systems modeling of the virtual cockpit, and the challenging realism of the flight dynamics.

On balance, there are a few things to criticize and many to enjoy. This review took a couple of days to write, but many days to research. Some of that research was in the form of reading, but most of it was in the form of (a) mastering the flight model and (b) trying out different features of the weapons systems and avionics. There is a lot here to learn about and explore, and almost all of it is fun.

Just as I was finishing up my review, I received an email from one of our fellow simmers, retired Chief Petty Officer

Peter C. Ward of the US Navy. He had this to say about the A-7, and about Ron Zambrano, who started Razbam and brought this project to completion:

"I am not a pilot, nor have any real world flight experience, other than as a passenger. I did, however, work on Corsair IIs for over six years. It was a very dependable aircraft for the USN. It did its job, and then some.

I provided Ron with a great deal of data for this project, including seven books on the Corsair II, not counting numerous illustrations, technical drawings and blue prints. It was a labor of love. I made two trips to the aviation museum at NAS Pensacola, and it was a pleasure to go through documents, searching for details to give to Ron. Personally I think this aircraft is the finest that Ron has produced so far."

What I Like About The Razbam A-7

- Sharp-looking external model
- In-depth modeling of cockpit systems
- Collimated HUD
- Animated "Snake Eye" bombs
- Realistic engine modeling

What I Don't Like About The Razbam A-7

- Missing sounds
- Some features don't work in free flight
- Adding or dropping bombs doesn't affect weight for carrier launches or landings

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