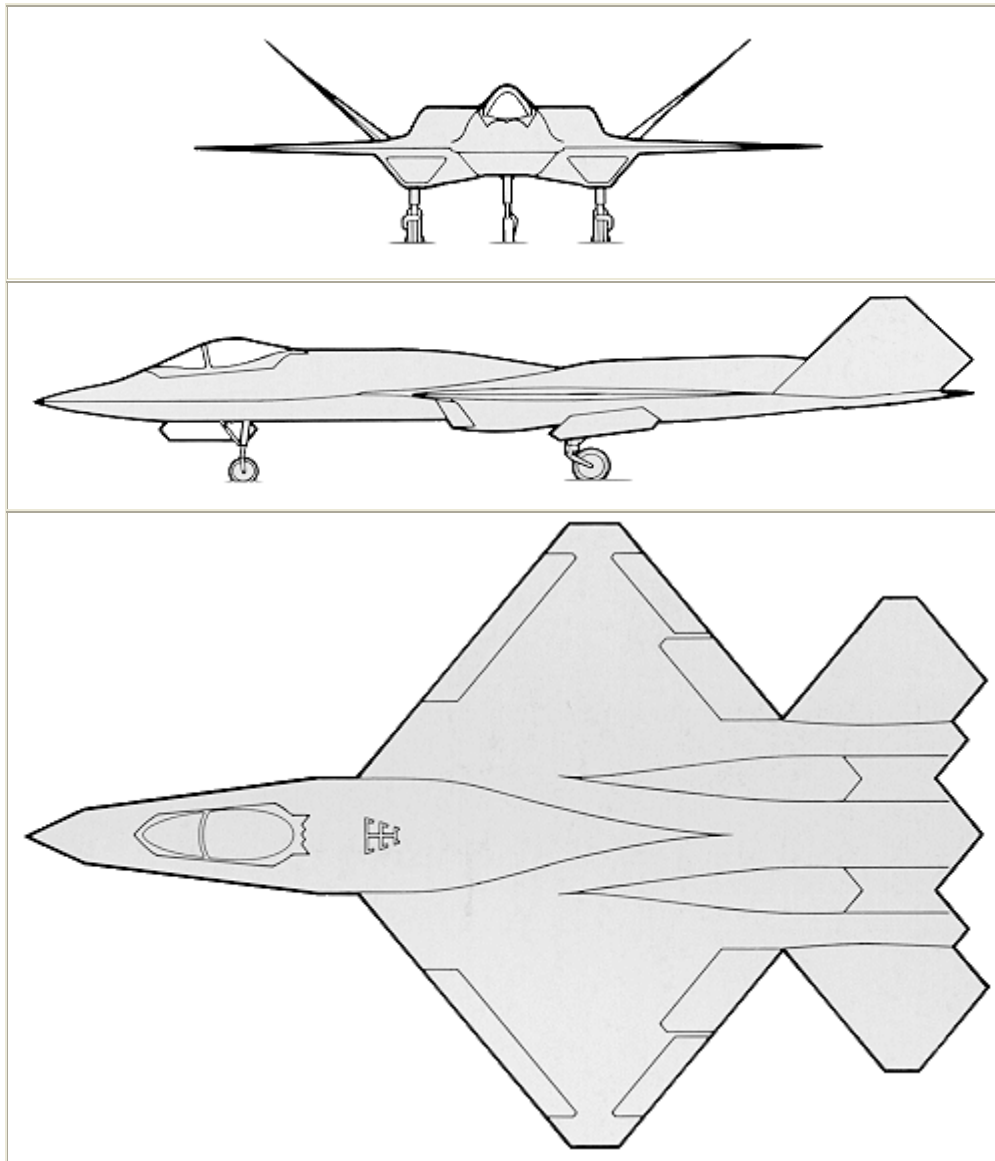


In 1981, the Air Force developed a requirement for an Advanced Tactical Fighter (ATF) as a new air superiority fighter. It would take advantage of the new technologies in fighter design on the horizon including composite materials, lightweight alloys, advanced flight control systems, higher power propulsion systems, and stealth technology. Air Force leaders believed these new technologies would make aircraft like the F-15 and F-16 obsolete by the early 21st century. In 1985, the Air Force sent out technical requests for proposals to a number of aircraft manufacturing teams (Boeing/General Dynamics and Northrop/McDonnell Douglas). The Advanced Tactical Fighter (ATF) project was conceived in the early years of Reagan administration. It was pictured as being the aircraft which would replace the McDonnell Douglas F-15 Eagle in USAF service. The competitors were Lockheed with its YF-22 and Northrop/McDonnell Douglas with its YF-23. Like the YF-22 team, the Northrop team built two YF-23 prototypes, one with General Electric YF-120 engines and the other with Pratt & Whitney YF-119 engines. First take off of "Gray Ghost" 27th Aug 1990 on Edward AFB, 26th Oct 1990 second prototype. First program lasted 65 hours divided into 50 flights, ended by second prototype 18th Dec 1990. After extensive flight testing 23rd Apr 1991 the YF-22 was selected for production.



Flying the YF-23 is a challenging task. With a little practice however, it becomes second nature. In real life the aircraft would be a fly-by-wire vehicle, with every control stick input by the pilot being processed by a flight computer, and then sent to the appropriate control surfaces or combination thereof. Since FS2002 does not accurately model fly-by-wire behavior, the autopilot features have been augmented to assist in flying this powerful beast!

Manual flight is slightly more complex, but it can be done with a high degree of precision. The main thing to remember is to use the throttle sparingly. Generally the throttle is only opened to maximum thrust on takeoff and acceleration to high altitude. For maneuvering, a more conservative throttle setting is advised. Typically you can achieve most of your mission flight goals with half to two thirds throttle.

Taxi

Taxiing on the runway is relatively easy. Open the throttle a quarter and then close it when you reach 10 knots. That should keep you taxiing at between 15 to 20 knots. Apply a little power when turning. Note that the nose wheel is very sensitive. In fact the YF-23 requires very little control input to keep things in balance. Line up on the runway, close the throttles, apply brakes, and await clearance.

Takeoff

Flaps are to be fully retracted (up) for takeoff. When cleared for takeoff, open the throttles about two thirds. Press the "O" key to ignite the afterburner if desired. At about 160 KIAS pull back gently but deliberately. Rotate to about 10 degrees at which point the YF-23 will leap into the sky. Retract the gear before 250 KIAS and deactivate the afterburner by pressing the "O" key if you used reheat for takeoff. Continue to raise the nose and hold steady at 15 or 20 degrees nose up attitude.

Climb to attack or cruise

Accelerate to cruise or attack altitude with full power and about 20 degrees nose up attitude. A more moderate climb profile can be achieved with two thirds throttle and 15 degrees nose up attitude. The YF-23 will respond very favorable to correct trim input if your joystick has a button assignment for this. Cruise speed of Mach 1.6 is safe to achieve from 18,000ft and higher. Below this, the flight computer will issue an overspeed warning at 1100 KIAS. Immediately close the throttles and lift the nose to decelerate if this happens. Prolonged operation above 1100 KIAS below 10,000ft will cause severe airframe damage and if you have the realism settings maxed out, will overstress the aircraft. If you don't have aircraft "stress" enabled, the aircraft will shake to simulate airframe disintegration.

You will notice that the YF-23 responds very quickly to the slightest input. This becomes even more apparent at supersonic speeds. Be light with your joystick movements. When you reach the desired attitude, do not allow the joystick to snap back to neutral. The snapping of the joystick is interpreted by the flight model as a quick movement and the aircraft will behave accordingly. Instead, slowly move the joystick back to neutral. In real life, the fly-by-wire system would not respond so dramatically to allow such severe control surface deflection at high speeds.

Deceleration and Descent

The YF-23 is a slippery beast, and closing the throttles will not slow you down in a hurry. Often you will need a very shallow descent profile, including some level flight segments to reduce your speed accordingly. The speed brakes can be deployed at 450 KIAS below 10,000ft. The brakes are quite powerful. When speed decreases to below 300 KIAS, drop the flaps 2 notches and stow the speed brake. Below 250 KIAS, you can lower the landing gear.

Preparing for landing

4 miles from touchdown, lower the flaps all the way and arm the speed brake by pressing "Shift-/". Set throttle as needed to maintain 140 KIAS. Use trim as required to maintain 1000fpm or less descent rate.

Landing

Above the runway threshold, close the throttles and flare to 5 degrees nose up pitch. The YF-23 will settle quite quickly. If armed, the speed brakes will deploy upon landing. Apply brakes and taxi clear of the runway when able.

Notes on Autopilot

A full autopilot is included in this model. Depending on which panel you elect to install, operation may be different. At any rate, all default FS2002 autopilot settings are selectable and operational. The default vertical speed is 2000fpm.



