

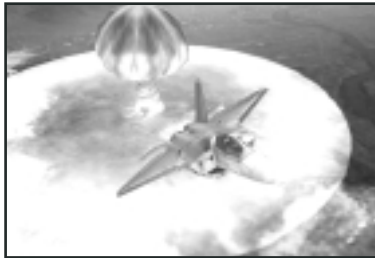


# **F22 LIGHTNING<sup>TM</sup>3**

**START-UP GUIDE**

The entire staff of NovaLogic would like to thank you for purchasing the latest in the action-packed F-22 Lightning series. With the invaluable aid of Dave Ferguson, the former Director of Flight Operations for Lockheed Martin Skunk Works, we are proud to put you in the pilot seat of the world's most advanced fighter, the F-22!

As the first and only 5th generation air dominance fighter, the F-22 was conceived to replace the aging F-15 Eagle. Built for speed, stealth and power, the F-22 ensures air superiority for decades to come. Its advanced avionics suite provides unprecedented situational awareness, allowing the pilot to concentrate on the mission, rather than on managing the sensors.



The F-22 utilizes twin Pratt & Whitney F119-PW-100 35,000-pound-thrust engines to "Supercruise" (achieve supersonic operation without afterburner). This burns fuel more efficiently allowing the F-22 to stay up longer and produce less IR emission. With advanced two-dimensional thrust-vectoring engine nozzles, integrated flight propulsion controls and a large lifting area, the F-22 displays unprecedented maneuverability.

Built with the same modern stealth technology as the B2 Stealth Bomber, the F-22 is nearly invisible to most current radar systems. Superior structural design, including advanced composites, radar-absorbing materials and internal stores, makes the F-22's radar profile a thousand times smaller than most fighter aircraft. Combined with the computing power equivalent of two Cray supercomputers, the F-22 gives its pilot the formidable first-look, first-shot, first-kill advantage. Capable of firing advanced medium-ranged missiles and executing precision ground attacks, including the devastating B61 thermonuclear bomb, the F-22 is completely unmatched in the fighter combat arena.

Developed to counter the threat of hostile air forces and advanced air defense systems, the F-22 is currently preparing to enter active duty in 2005. By the year 2013, the United States Air Force will have in service 339 F-22 air dominance fighters. When ready, the F-22 will easily be the best front-line fighter in the world.

## TO VIEW THE COMPLETE MANUAL:

The CD contains an installable version of Adobe Acrobat Reader for viewing the L3Manual.PDF. The manual can be found in the Start Menu once you have installed the game.

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# F-22 Lightning 3 Install

Welcome to F-22 Lightning 3. In order to play the game, you must first install the game files onto your computer's hard drive. If you wish to use a joystick controller, you should also calibrate it before beginning play.

## GAME INSTALLATION

The AutoRun program will automatically load itself and run each time you insert the game CD into your CD-ROM drive. The games use the InstallShield® to place the necessary files on your hard drive. Before you begin installing the game, close all programs that your computer may be currently running. The installation program requires all of your computer's resources. Then:

1) Place the game CD into your CD-ROM drive and close the drive door. The AutoRun program will now take over. If you have turned off the AutoRun feature or if the AutoRun fails to launch automatically, double-click on the "My Computer" icon on your desktop and then double-click on your computer's CD-ROM drive letter. This should launch the game's AutoRun.



2) Click the mouse on one of the menu choices, or type the letter corresponding to the underlined hot key.

## INSTALLING DIRECTX™

Make this selection to install the latest version of DirectX onto your hard drive. You must have DirectX 3.0 or greater installed on your machine to play any of the games. Windows® NT 4.0 requires Service Pack 3 or greater (obtained at the Microsoft Website) to play.

## INSTALLING F-22 GAME FILES

1) At the beginning of the installation program you are given the opportunity to select a destination folder for the game. A default is typed in the window for you. Press the ENTER key to select the default destination. Otherwise, select your own folder name. If the folder you specify does not already exist on your hard drive, the Install program will create it for you. Further installation instructions will appear onscreen.



2) If there is enough free hard drive space at the destination site, the program will copy the files from your game CD-ROM. An on-screen progress meter displays the completion percentage as the program transfers the files.

3) The install procedure automatically adds a NovaLogic folder to your Windows 95/98 Start Menu under the Programs heading. The game sub-folder within the NovaLogic folder contains an application short-cut icon for the game.

4) If your Windows 95/98 system does not already have DirectX installed, you will need to install it now. Select Install DirectX from the AutoRun program, then follow the on-screen instructions. You will need to restart your computer to activate DirectX before you can play.

## STARTING THE GAME

If your computer is already turned on and the game CD is in the CD-ROM drive, go to the directory containing the game or Start Menu and double-click on the program icon.

If your computer is on, but the program CD is not in the drive, insert the game CD into the drive and select Start from the AutoRun screen. If no screen appears when you insert the CD, double-click on the "My Computer" icon on your desktop, then double-click on the icon for your computer's CD-ROM drive. You can then choose Start from the AutoRun screen. You may also use your computer's Find feature to locate and launch the program.



## Quick Start

An easy way to begin your career as an F-22 pilot is with the first five Quick Missions. In these Tutorial missions, you will learn the basics of flight, combat maneuvering and bombing. It doesn't take long and experienced flight sim pilots may even learn a thing or two about the F-22.

**BRIEFING NOTE:** Press the PAUSE key if you need to catch your breath at any time.

The absolute bare minimum amount of knowledge needed to fly F-22 Lightning 3:

**GETTING IN THE GAME:** Click on the F-22 Lightning 3 icon to start the program. On the main menu screen, click "Quick Mission" with your mouse. Click "Accept" to get to the Mission Briefing and "Accept" again to start the mission.

**COCKPIT:** Press the F1 key to enter the cockpit. Use the Keypad 2, 4, 5, 6, 7, and 9 to cycle through your displays. Press the F2 key to look through the Head-Up Display.

**MISSION OBJECTIVES:** Press the O key to see the list of objectives that must be accomplished.

**TAKING OFF:** Press Backspace to engage afterburners. When your calibrated airspeed reaches 150 knots (located on the left side of your Head-Up Display), pull back on the stick or depress the Down Arrow. Alternatively, you may simply press Ctrl-A to automatically takeoff.

**FLYING:** Use the stick or Arrow keys to control the F-22. Press the L key to automatically return the plane to a level flight if needed. Use the A key to bring up a list of autopilot commands.

**AIR TO AIR COMBAT:** Cycle your weapons with the ~ (tilde) key. When you are within range of a target, the "SHOOT" cue will appear. Press the Spacebar or Joystick Trigger to fire your weapon.

**LANDING:** Press Ctrl-L to automatically bring the F-22 home again.

## AUTO-CONTROLS

Advanced avionics make the F-22 one of the easiest front-line fighter planes to fly. Lightning 3 has a host of features designed to get the new pilot up in the air, flying and fighting. In the game, pressing the A key will bring up the complete list of Auto-Controls.

**AUTO-FOLLOW TARGET (CTRL-F)** - When you want to close the gap with your target, press this key combination. It will do what it takes to get you close to your target, then it will activate the Auto-Match Speed and stay in tight formation behind the target.

**AUTO-FOLLOW ROUTE (CTRL-N)** - This key combination will direct your Autopilot to fly to all steerpoints in order.

**AUTO-LANDING (CTRL-L)** - When you are ready to land, use this key combination. It will direct your F-22 toward the nearest landing strip and circle into a proper landing pattern. You will not need to do anything while it successfully lands the plane. Once on the ground it will shift to Auto-Taxi.

**AUTO-LEVEL (L)** - At any time, press this key to return the F-22 to an attitude level with the horizon.

**AUTO-MATCH SPEED (CTRL-M)** - This key combination will take control of your throttle and increase or decrease thrust as necessary to keep pace with your selected target aircraft.

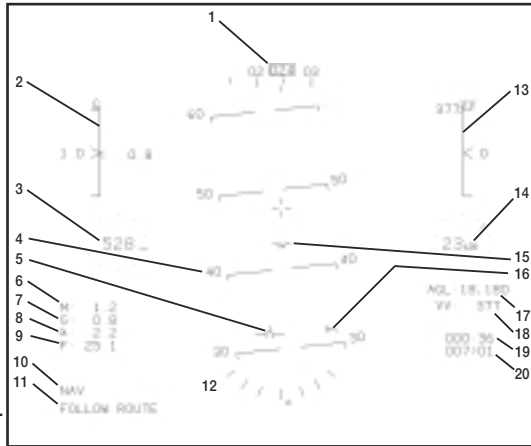
**AUTO-REFUEL (CTRL-Z)** - When you are low on fuel, use this command to direct the F-22 to the nearest KC-135 Stratotanker. Once the F-22 is close enough, the tanker will refuel you automatically.

**AUTO-TAKEOFF (CTRL-A)** - When you press this key combination, the plane will automatically accelerate down the runway and lift its nose at the appropriate time to rotate, or takeoff. Once you are airborne, the plane will climb to an appropriate flight altitude and engage the Auto-Follow Route.



## HEAD-UP DISPLAY (F2 KEY)

One of the most useful cockpit displays, the HUD shows information from many sources, such as the avionics systems, radars, and weapons systems aboard the F-22. The HUD projects computer-generated holographic data in an optically advanced gelatin screen directly in front of the pilot's field of vision. With a little practice you will be able to read the HUD quickly and easily. There are several different modes for the Head-Up Display to assist you in specific tasks such as weapon firing or landing the F-22.



## NAV (1 KEY)

This is your default mode. It contains all the basic information you need to fly the aircraft. Once your landing gear is up, the HUD will automatically switch to the EEGS mode.

1. **COMPASS HEADING INDICATOR** – At the top center of the HUD screen is a tape indicator with the current compass heading of the aircraft.
2. **GRAVITY FORCE INDICATOR** – This number represents the amount of G affecting the plane and pilot. During takeoff and landing, this bar will read Angle of Attack as per #8.
3. **CALIBRATED AIRSPEED DIAL** – On the left side of the HUD is the dial containing the current airspeed for your F-22, in knots (nautical miles per hour). The dial replaces the tape indicator used in older aircraft which was known to cause slight disorientation in extreme situations.
4. **PITCH LADDER** – The horizontal lines bisecting the center of the HUD are part of the Pitch Ladder. The lines themselves are always parallel to the horizon, and the tick marks on the tips of the Pitch Ladder rungs always point to the horizon, so you can quickly determine your relationship to the horizon, no matter how extreme your maneuvers have been, or how bad the visibility is. The numbers at the end of the pitch scale lines show the pitch angle of the nose of your aircraft. Positive numbers represent angles above the horizon, while negative numbers indicate that your nose is pointing below the horizon.
5. **FLIGHT PATH MARKER** – The small circle with the vanes extending from its top and sides is the Flight Path Marker. At any given moment the Flight Path Marker points directly to where your aircraft would wind up if all flight parameters remained the same. During bad spins or extreme maneuvers, an “X” will appear through the Flight Path Marker when it is actually beyond the limits of the HUD.

6. **MACH INDICATOR** – Mach represents a multiple of the speed of sound. A reading of 1.09, for example, means that the aircraft is travelling at 1.09 times the speed of sound. Mach is derived from the air speed of the F-22 relative to the air pressure (generally determined by the altitude.)
7. **GRAVITY FORCE INDICATOR** – Same as #2.
8. **AOA INDICATOR** – This measures the angle between the chord line of your wing and the relative wind. A reading of zero means you are in level flight. The F-22's thrust-vectoring engines allow control at a greater angle of attack than most other planes.
9. **FUEL INDICATOR** – The current fuel of the F-22, measured in thousands of pounds.
10. **CURRENT HUD MODE INDICATOR** – There are several different modes for the HUD. If this line says “NAV”, then you are currently viewing the Navigation Mode.
11. **STEERPOINT COMMENTS** – Any special preprogrammed instructions associated with the selected Steerpoint will appear here.
12. **ROLL SCALE** – This marking shows the aircraft's relative bank to the horizon. This is useful for determining your aircraft's position in situations where your visibility is compromised.
13. **VERTICAL VELOCITY INDICATOR** – This number shows the rate of change of altitude in hundreds of feet per minute.
14. **BAROMETRIC ALTITUDE DIAL** – At the right of the HUD is a dial containing the aircraft's current altitude, in feet Above Sea Level (ASL).
15. **WATERMARK** – The center peak in the “W” represents the F-22's nose. This symbol is useful in determining your relationship to the horizon.
16. **COMMAND STEERING CUE** – The “tadpole” marker indicates the direction to steer to reach the next Steerpoint. When you are heading directly toward the Steerpoint, the Command Steering Cue will line up inside the Flight Path Marker.
17. **RADAR ALTIMETER** – The “AGL” shows the aircraft's current altitude, in feet Above Ground Level.
18. **VERTICAL VELOCITY INDICATOR** - Same as #13.
19. **TIME TO NEXT STEERPOINT** – Measured in minutes and seconds.
20. **SELECTED STEERPOINT** – Gives the distance in nautical miles to the next selected Steerpoint followed by that Steerpoint's ID number. Cycle through the Steerpoints for the mission with the N key.

## WARNINGS

From time to time, your onboard computer may warn you of hazardous conditions. The word “Terrain” appears on the HUD if a ground collision is imminent. “VMax” will appear when your velocity is too great and threatens to compromise the F-22's structural integrity. Keep an ear out for the ominous “Bingo” warning, which alerts you to the fact that you are nearly out of fuel.



**EASY FLIGHT Controls**  
 A – Autoccontrol Commnad Menu  
 H – Home (Autopilot to the initial approach point)  
 L – Auto-Level Aircraft  
 CONTROL A – Auto-Takeoff  
 CONTROL F – Auto-Follow Current Target  
 CONTROL L – Auto-Land the F-22  
 CONTROL M – Auto-Match Speed with Current Target  
 CONTROL N – Follow Route to Next Steerpoint  
 CONTROL Z – Auto-Refuel

EXIT Esc	VIRTUAL COCKPIT F1	HUD VIEW F2	EXTERNAL VIEW F3	FLY-BY VIEW F4	PADLOCK VIEW F5	WINGMAN VIEW F6	MISSILE VIEW F7	TARGET VIEW F8	NIGHT VISION F9	HUD ON/OFF F10	ATTACK DISPLAY F11	TIME COMPRESS F12
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Print Scrn	UNCAGE SIDEWINDERS Scroll Lock	PAUSE Pause
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CYCLE WEAPONS `	NAV 1	GUNS 2	AIR TO AIR MISSILE 3	AIR TO GRN MISSILE 4	BOMBS 5	ENGINE OFF 6	TAXI 35% THRUST 7	LANDING 80% THRUST 8	CRUISE 90% THRUST 9	FULL MIL 100% THRUST 0	DECREASE THRUST -	INCREASE THRUST +	Afterburner ←
CYCLE TARGETS FORWARD BACKWARD Tab	SHOW SQUAD Q	WINGMAN COMMAND W	END EJECT E	RADAR MODES R	TEXT CHAT SQUADRON T	RECENT MESSAGES Y	RUDDER LEFT U	RUDDER RIGHT I	MISSION OBJECTIVES O	PLAYER LIST P	PREV. TARGET [	NEXT TARGET ]	
Caps Lock	AUTOPILOT CONTROLS TAKEOFF A	ZOOM IN FAST S	FLARES D	FLAPS FOLLOW TARGET F	GEAR G	HOME H	JETTISON STORES J	JETTISON SELECTED WEAPON K	AUTO LEVEL LAND L	TOP 8 PLAYERS ;	BORESIGHT TARGET ,	PUSH TO TALK Enter	
Shift	FIRE CANNON REFUEL Z	ZOOM OUT FAST X	CHAFF C	WINDOW/FULLSCREEN V	BRAKE TOGGLE B	CYCLE STEERPOINT FOLLOW ROUTE N	TACTICAL MAP MATCH SPEED M	HUD DIM ,	HUD BRIGHT .	HELP CHAT TO SYSOP /	Shift		
Ctrl	Alt	FIRE SELECTED WEAPON										Alt	Ctrl

**VOICE-OVER-NET CONTROLS**

PREV. PLAYER Insert	Home	NEXT PLAYER Page Up
MUTE CURRENT TALKER Delete	V-O-N INTERFACE End	PUSH TO TALK Page Down

Num Lock	LOOK LEFT /	LOOK RIGHT *	LOOK FORWARD -
STATUS DISPLAY 7	COMM DISPLAY 8	SFG DISPLAY 9	CHECK SIX
DEFENSE DISPLAY 4	NAV DISPLAY 5	ATTACK DISPLAY 6	+
1	STORES DISPLAY 2	3	
0			Del
			Enter

PITCH DOWN ↑	PITCH UP ↓	ROLL RIGHT →
ROLL LEFT ←		

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