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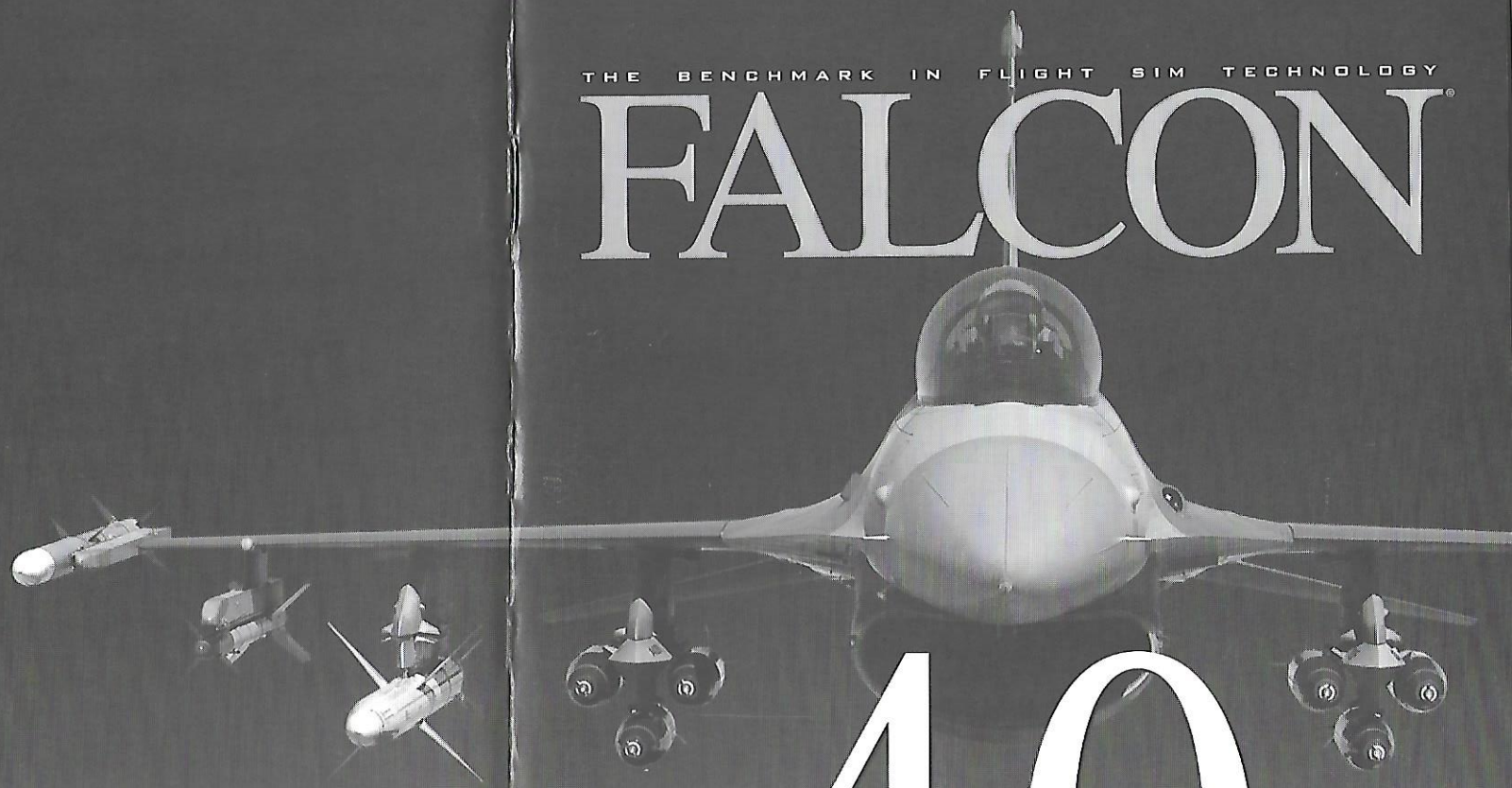
CADET'S GUIDE

Read Me First!

THE BENCHMARK IN FLIGHT SIM TECHNOLOGY

FALCON 4.0



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HEY, CADET!

Looking for information?

Point your browser to **www.falcon4.com,**
the **only official *Falcon 4.0* Web site** created and maintained by MicroProse. This exciting site has everything you need to **get the most out of your new game:**

Technical support

Tips and techniques from real F-16 pilots

Message boards

New missions to download

Software updates

Updated documentation

Information on virtual fighter squadron groups

Links to interesting Falcon 4.0 and F-16 sites

Screen shots

Designer's notes

And more!

Since the *Falcon 4.0* Web site is **updated frequently,** visit us often to avoid missing anything!

WWW.FALCON4.COM

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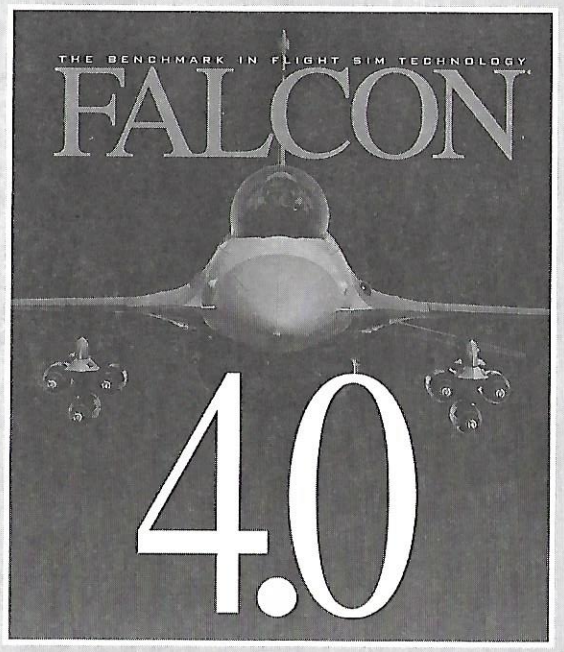

GUIDE

MICROPROSE®

Second Edition, September 2000.

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INTRODUCTION

WHAT IS *FALCON 4.0?*

Falcon 4.0 is a combat flight simulator that accurately models the U.S. Air Force's F-16C Block 50 "Falcon" fighter aircraft. The F-16 is one of the most versatile combat planes in the world—the perfect blend of superb air-to-air combat maneuverability with precision air-to-ground strike capability. The jewel of the U.S., NATO and Allied air arsenals, the F-16 Fighting Falcon is deployed throughout the world.

This simulation contains a number of facets, most of which are completely described in the comprehensive **Flight Handbook**. The Instant Action section (described in this **Cadet's Guide**) gives the novice pilot the immediate opportunity to get into the skies and engage air and ground targets. Instant Action is also the perfect place for experienced pilots to hone their combat skills without having to jump into a full-fledged campaign. Throughout this **Cadet's Guide**, we'll be going over the basics for flying and fighting in the F-16. For detailed information on cockpit instruments, air combat maneuvering and the like, refer to the appropriate chapter in the **Flight Handbook**.

If you have access to the Internet, be sure to check out the official *Falcon 4.0* Web site at **www.falcon4.com**. Here, you'll be able to read strategy tips from the experts, download custom missions and get up-to-the-minute info about the hottest flight sim on the market!

There's a lot to this simulation, so strap yourself into the cockpit and prepare for some high-speed action!

WELCOME TO GROUND SCHOOL!

Greetings, pilot! So, you've just opened up the *Falcon 4.0* packaging and you've been confronted with the massive **Flight Handbook**. True, it's almost enough to put a shiver in even in the most die-hard joystick jockey. But, don't panic just yet!

This **Cadet's Guide** is designed to get you up in the air and into combat as quickly as possible via *Falcon 4.0*'s "Instant Action" area. In Instant Action, you won't have to worry about takeoffs, landings, midair refueling—and you certainly won't have to deal with all the complex instrumentation onboard your F-16. You will have to do a bit of reading here, though, so keep this **Cadet's Guide** and your **Quick Reference Chart** handy. Basically, consider the **Cadet's Guide** the "Cliff's Notes," while the **Flight Handbook** is the all-encompassing encyclopedia.

Here's what we'll cover in this booklet:

Installation: System requirements and how to install and run *Falcon 4.0*.

Getting Started: Configuring your setup and creating a pilot persona.

Into the Skies!: An overview of the Instant Action section, its options and scoring.

Views and Flight Controls: Checking out the world around you and learning to fly.

Cockpit Instruments: Overview of the Head-Up Display (HUD) and the easy radar mode.

Air-to-Air Engagements: A basic air combat engagement against enemy aircraft.

Air-to-Ground Engagements: A basic ground pounding assignment against enemy tanks.

Glossary: A layman's guide to some of the terms used in this guide.

THE LAST WORD

Remember, *Falcon 4.0* is the ultimate high-end combat flight simulator and the culmination of years of intense game development. You're not expected to know it all at once. Take your time, be patient and, above all else, enjoy yourself.

INSTALLATION

IN THIS BOX

Inside the *Falcon 4.0* package, you should see the following components:

- *Falcon 4.0* CD-ROM
- *Falcon 4.0* Cadet's Guide - Read Me First!
- *Falcon 4.0* Quick Reference Chart
- *Falcon 4.0* Flight Manual - EXCERPTS (complete manual is on the CD-ROM's .pdf file)

While reading this **Cadet's Guide**, you should have the game CD-ROM and the **Quick Reference Chart** handy. You can put the other items aside for future use.

SYSTEM REQUIREMENTS

Installing *Falcon 4.0* is fairly straightforward, but there are a few things you'll need to have before you can take to the skies. *Falcon 4.0* is a leading-edge flight simulation which requires the most out of your computer. While the simulation will run under the Minimum and Recommended specifications, the Ideal configuration will make *Falcon 4.0* scream.

Minimum

You must have at least the following hardware and software in order to play *Falcon 4.0*:

- 166MHz Pentium
- Windows 95 or Windows 98 with DirectX 5
- 32MB RAM
- High Color graphics for 800 x 600 x 16-bit color
- 4x-speed (quad-speed) CD-ROM drive
- Hard drive (175MB free)
- DirectX-compatible 16-bit sound card
- Joystick

Recommended

This setup is the baseline system you should use for *Falcon 4.0*:

- 266MHz Pentium II
- Windows 95 or Windows 98 with DirectX 5
- 64MB RAM
- 3-D graphics accelerator (Direct3D and 3Dfx supported)
- 8x-speed CD-ROM drive
- Hard drive (400MB free)
- DirectX-compatible 16-bit sound card
- Joystick with throttle

Ideal

The following configuration will truly make the most of *Falcon 4.0*'s capabilities:

- IBM 450MHz Pentium II
- Windows 95 or Windows 98 with DirectX 5

- 128MB RAM
- 3-D graphics accelerator with 8MB for texture memory
- 24x-speed CD-ROM drive
- Hard drive (600MB free)
- DirectX-compatible 16-bit sound card
- Fully programmable joystick, throttle and rudder pedals

Multiplayer

In addition to the requirements above, you will need the following equipment to play *Falcon 4.0* in multiplayer mode:

- Null-modem serial cable (for 2 players in the same room)
- Windows-compatible 28.8kbps modem or faster (for Internet play or modem-to-modem play)
- Local area network with TCP/IP protocol (for multiple players)

INSTALLING *FALCON 4.0*

To install *Falcon 4.0* to your computer, first turn on your computer and wait until you see the Windows 95/98 desktop. If your computer was already on, be sure that you exit all programs and restart your computer. Once that is complete, follow the instructions below:

Falcon 4.0 Install Program

1. Insert the *Falcon 4.0* disc into the CD-ROM drive on your computer.
2. At this point, the AutoPlay feature of Windows 95/98 should take over and the *Falcon 4.0* installation program should launch. If it doesn't start up for some reason, double-click "My Computer" on your Windows desktop and then double-click the *Falcon 4.0* icon.
3. The first screen you'll see is the *Falcon 4.0* Install main screen. There will be three options here: "Play Falcon 4.0" (grayed out), "Set up Falcon 4.0" and "Exit."
4. Click "Set up Falcon 4.0" from this screen. This will launch the installation program.
5. The first few dialog boxes will ask you to read the Warranty/License Agreement before continuing. When you're finished reading the agreements, click Yes to continue.

CHOOSE INSTALLATION FOLDER

6. Now, you'll be prompted to choose a folder where you'd like the *Falcon 4.0* game files to be installed. The default is C:\MICROPROSE\FALCON4, but if you want the game in another location, select the appropriate folder. If you want to change drives, click Next and then the Browse button to select a new folder. When you are finished choosing a folder, click the Next button to continue.

HARD DRIVE SPACE REQUIREMENTS

7. You'll be asked to choose how much space you want *Falcon 4.0* to take on your hard drive. In general, the more space *Falcon 4.0* takes on your hard drive, the less it will have to load from the CD-ROM and the faster the game will transition from the interface to the game. Be sure to leave enough free space on your hard drive for the swap file. When you've selected an option, click Next to install *Falcon 4.0* to your computer.

Here are the installation options:

Compact: Will install only what is necessary to run (140MB). This option takes the least amount of space on your hard drive, but doesn't install anything besides what is absolutely required. Therefore, the game will have to load the objects from the CD-ROM, increasing load time and possibly causing the game to stutter during some aspects of play.

Typical: Will install game objects and terrain but leaves movies on the CD-ROM (300MB). This normal option is the best solution for those players that don't have the hard drive space for the Full installation. It installs the major parts of the game.

Full: Will install everything (600MB). This is a whopper of a hit to your hard drive space, but does install the movies to your hard drive for faster access.

Custom: Will allow you to pick what is installed. Use this option if you feel like customizing what parts of *Falcon 4.0* are installed on your hard drive. This is also the way to install the objects or terrain separately if you previously did a Compact installation.

FINISHING THE INSTALLATION

8. After the *Falcon 4.0* files have finished being copied to your computer, the *Falcon 4.0* installer will check to make sure your version of DirectX is up to date. If you do not have at least version 5, then the installer will prompt you to update to DirectX version 5. If your version of DirectX is version 5 or later, then you will not see this screen.
9. After you update to DirectX 5 if needed, you'll have the option to complete your electronic product registration. Please follow the onscreen instructions.
10. Last of all, you'll have the option to read the Readme file. It's a good idea to take a quick glance at this document, since it will have important late-breaking information (including troubleshooting help) that didn't make it into the **Cadet's Guide** and the **Flight Handbook**.
11. Now that the installation program is complete, you should restart your computer. If you updated DirectX, you will have to restart your computer in order for it to take effect.

INSTALLING THE FALCON 4.0 1.08 PATCH

To install the 1.08 Patch, double-click on the icon labeled My Computer. Then, right-click on the icon for your CD-ROM drive (usually D:) and choose "Explore" from the pop-up menu. Double-click on the folder labeled 1.08 Patch located on the *Falcon 4.0* CD-ROM and then double-click on **f4108us.exe**. The installer will automatically upgrade Falcon 4.0 to version 1.08. For a complete list of 1.08 Patch fixes and enhancements, please refer to **F4_108.doc**, located in the 1.08 Patch folder.

VIEWING THE ONLINE DOCUMENTATION

INSTALLING ADOBE ACROBAT READER

To install Adobe Acrobat Reader on a machine running Windows® 95/98, double-click on the icon labeled My Computer. Then, right-click on the icon for your CD-ROM drive (usually D:)

and choose "Explore" from the pop-up menu. Double-click on the Adobe Acrobat Reader folder and then double-click on the **ar405eng.exe** file to install Acrobat Reader.

The instruction manual for *Falcon 4.0* has been placed on the game CD-ROM in Adobe Acrobat Reader format. Use Acrobat Reader to read and print the documentation.

Adobe Acrobat Reader requires the following:

- IBM 80486 or Pentium®
- Windows® 3.1, 95 or 98
- 16 MB RAM
- Hard drive (10 MB free)
- Windows-compatible printer for printing

Acrobat Reader must be installed on your computer to read the online documentation. You can install Acrobat Reader after you install *Falcon 4.0*.

VIEWING AND PRINTING THE DOCUMENTATION

To read the online documentation:

1. For Windows® 95 or 98 users, insert the *Falcon 4.0* disc into your CD-ROM drive.
2. Close the program window if the AutoPlay window appears.
3. Double-click on the icon labeled My Computer. Then right-click the icon for your CD-ROM drive (which is usually D:) and choose "Explore" from the pop-up menu. Open the manual folder and then double-click the **Falcon 4.0 Manual.pdf** file to view the manual.
4. For Windows® 3.1 users, insert the disc into the CD-ROM drive. Double-click the main program group. Next, double-click the file manager and then double-click on your CD-ROM drive (which is usually D:). Double-click the Manual folder then double-click the **Falcon 4.0 Manual.pdf** file to view the manual.

To print the online manual, select "Print" from the File menu. Choose the pages you wish to print and press the OK button.

ACROBAT HELP FILE

For more instruction on using Acrobat Reader, you can read the help file that comes with the program. Select "Reader Guide" from the Help menu.

OTHER ACROBAT TIPS

- You can move through a document one page at a time by pressing the [→] key to advance to the next page or the [←] key to back up one page.
- You can move through a document one screen at a time by pressing the [Page Down] key to scroll down one screen or the [Page Up] key to scroll up one screen.
- To increase text visibility, click on the magnifying glass in the toolbar.
- The online manual contains bookmarks which work like an electronic table of contents. To view the bookmarks, press [F5] and the bookmarks will appear to the left of the document window. To jump to the page corresponding to a bookmark, double- click the page icon next to the bookmark.
- To display or hide any of the subordinate bookmarks, click on the triangle next to the bookmark.

GETTING STARTED

Now that you've installed *Falcon 4.0*, I'm sure you want to get up in the skies right away. Before you can jump into the cockpit and get involved in a furball, you'll need to have a mini-primer of the interface. You also need to select your joystick and configure *Falcon 4.0* to recognize your video card.

BEFORE YOU BEGIN

Make sure your speakers are connected to your sound card, your joystick is plugged into your gameport and you have the proper joystick drivers installed on your computer. If you're not sure that you have the proper drivers or you don't know whether your joystick is set up properly, follow the directions below.

Choosing and Calibrating Your Joystick

Use these procedures to ensure your joystick is set up properly:

1. Go to the Start menu (at the bottom of your desktop) and choose Settings > Control Panels. When that window opens, double-click on the Game Controllers icon.
2. Make sure the General tab is selected.
3. If no game controllers are listed on this dialog box, select the Add button. If your preferred controller is listed here, skip to Step 6.

ADDING A NEW CONTROLLER

4. On the next dialog box, choose the controller that best fits your joystick and hit OK.
5. If you own a joystick that doesn't appear on the list, click the Add Other button. You may then need to click the Have Disk button to install joystick drivers from one of your disks, or else choose a driver from the list on the left. Follow the directions of the install wizard to successfully install your new drivers.

CALIBRATING YOUR CONTROLLER

6. Choose your controller from the list and hit the Properties button.
7. Make sure the Rudder/Pedals check box is checked if you have rudder pedals attached to your controller.
8. Click the Calibrate button to begin the calibration process. Follow all the directions to calibrate your particular joystick.

TESTING YOUR CONTROLLER

9. Click the Test tab on this dialog box to see if all aspects of your controller are working properly.
10. If everything looks OK, press the Apply button.
11. Press the OK button to exit this dialog box.
12. Press the next OK button to leave the Game Controllers control panel.

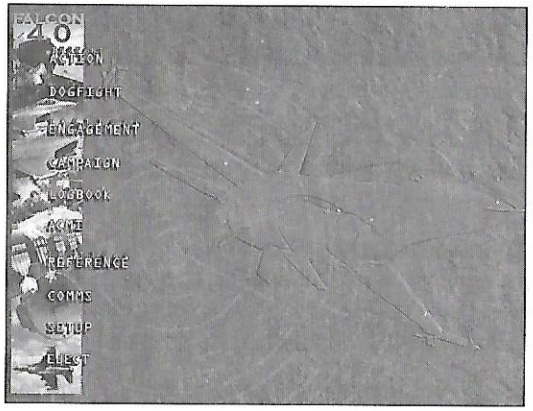
LAUNCH *FALCON 4.0*

To run *Falcon 4.0*, first close all open windows and exit any open applications. Next, go to the Start menu (at the bottom of your desktop) and choose Programs > MicroProse > Falcon 4.0. This will launch *Falcon 4.0* and begin the opening movie. Watch and enjoy—that'll soon be you!

You can also view the Readme file, visit the *Falcon 4.0* Web site or uninstall the game from the Start menu.

FALCON 4.0 MAIN MENU

The first thing you'll see after the opening movie is the *Falcon 4.0* main menu. We're only concerned with a couple of the items here; the rest aren't required for Instant Action and are fully described in the **Flight Handbook**.



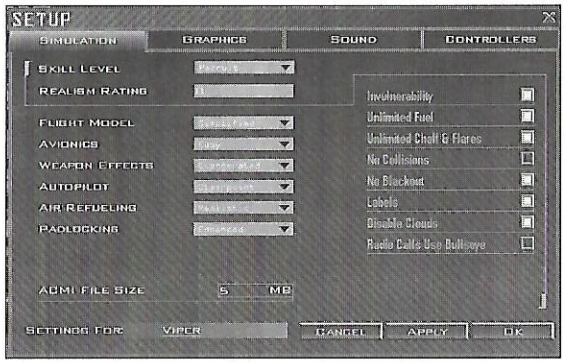
Before you take to the air, you'll need to set up your hardware and test your joystick.

Setup

Choose Setup from the *Falcon 4.0* main menu. This will bring up a screen with headings along the top and a number of options below. Throughout the Setup section (and the rest of the interface), some game options have a box after the name of the option. An option is enabled when that box is green. Take a look at the Setup screen now. You'll see a number of these boxes—some enabled, some disabled. Choose other game options from drop-down list boxes.

SIMULATION

The first screen you'll see in the Setup section is the Simulation options screen. This screen determines the realism of your in-flight experience. Options here directly affect the score you receive in Instant Action. For purposes of your first flight, you only need to make a few changes on this screen.



Skill Level: Recruit – Choosing a skill level automatically affects a number of other options in the Simulation screen. Make sure Recruit is selected before you continue. Recruit is the easiest of the five skill levels.

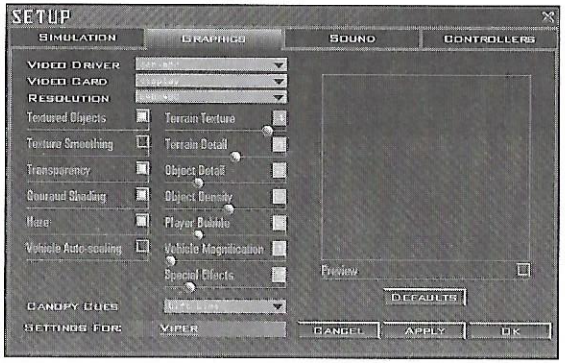
Invulnerability: On – This option makes you immune to damage from any aircraft or ground unit. For now, turn this option On. Once you get used to your aircraft, you'll want to come back here and turn it to Off. Turning this option to On will instantly make your Realism Rating drop drastically. So, don't expect to get points if you are invulnerable.

Disable Clouds: On – We recommend you turn this option on unless you have a 3-D graphics accelerator with at least 4MB for texture memory.

Click "Apply" to Continue – Once you've finished setting up these Simulation options, click the Apply button.

GRAPHICS

Now that you've finished with the Simulation section, click the Graphics tab at the top of the window. The Graphics screen allows you to choose a screen resolution to play in, what graphics accelerator card you want to use and a number of detailed in-game graphics options. Since we want to complete this section quickly, only worry about the four options detailed below for now. **Chapter 16: Setup** of the **Flight Handbook** goes into greater detail on all the Setup options.



Video Driver – Choose the appropriate video driver from this drop-down list. If you have a Voodoo-based 3-D graphics accelerator, choose Glide. If you have a Direct3D-based 3-D graphics accelerator, choose Direct3D. If do not have a supported 3-D graphics accelerator, choose Software.

Video Card – Select the video card you want to use from this drop-down list (which shows all the graphics cards available on your computer).

Resolution – Finally, choose a screen resolution for the simulation part of *Falcon 4.0*.

Canopy Cues – From this drop-down box, choose Lift Line. If you have a graphics accelerator card, you may wish to select Reflections or Both depending how much video RAM you have on your graphics card.

Click "Apply" to Continue – Once you've finished setting up all your Graphics options, click the Apply button.

CONTROLLERS

After finishing the Graphics part of the Setup area, click the Controllers tab. Here, we'll set up and test your joystick. This is an important process, because without the proper joystick settings, you won't be able to fly your jet.

First, is your joystick plugged into the gameport on your computer and are the proper drivers installed? If the answer is "Yes," great! We can continue. Otherwise, follow the instructions at the beginning of this chapter to get up and running.

Choose a Joystick – From the Controller drop-down box at the top of the screen, find and choose your joystick from the list. Generally, you should only see one joystick choice here, but if there is more than one, select the option for the joystick you want to use.

Testing... 1, 2, 3 – The box with a dot in the center of it on the left side of the screen is the joystick testing box. Since your joystick was calibrated from within Windows, it should be working properly once you've chosen one. Go ahead and move your joystick around to see if the dot is moving.

Just to the right of the test area, you should see two blue vertical bars. The first vertical bar corresponds to your throttle, while the second one is for the rudder pedals. Engage them one at a time to see if they're working properly. If you own a throttle or set of rudder pedals and the bars are gray, your throttle or pedals are not connected.

Now, one by one, click each of the buttons on your joystick. Green lights should appear at the bottom of the screen each time you press and release one of the buttons. If you have a joystick with a hat switch on the top of the stick, press the hat up, down, left and right and check the hat diagram just above the rudder/throttle bars.

Complete information on the Controllers section is detailed in **Chapter 16** of the **Flight Handbook**.

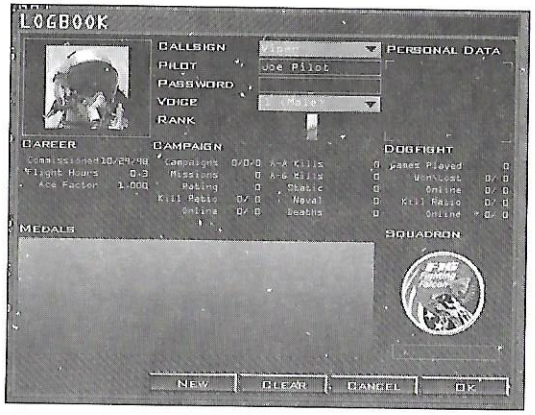
EXITING SETUP

Now that you've configured your setup, hit the Apply button to engage the settings. Hit the OK button to return to the *Falcon 4.0* main menu.

LOGBOOK

The Logbook allows you to define your virtual pilot persona. Here, you can choose a name, callsign, pilot picture and squadron assignment. These are more important in the Campaign area, but your name is used as the default for Instant Action scoring. Click Logbook from the *Falcon 4.0* main menu to start entering data.

Changing settings in the Logbook is optional. If you're antsy to get up in the air, you can skip this section for now.



CALLSIGN

Your callsign is your handle in the skies, your moniker so to speak. Choose a callsign that best fits your personality. However, pilots' callsigns usually aren't more than three syllables long. If a pilot has to yell at his wingman, "Jaegermeister, cover me" when he's in trouble, that first pilot is probably already a flaming wreck.

PILOT

Enter your actual name here. This is your official name that will be referenced in Campaign mission setups and for the Sierra Hotel high score screen.

VOICE

This option gives you the choice for either a Male or Female voice to be heard when your radio messages are broadcast to others.

PILOT PICTURE

The box in the upper left is where you can choose an image to represent you. Click in the box to bring up a dialog box with a number of pictures to choose from. If you have your own photo digitized, you can use it as your pilot picture! For complete info on these features, check **Chapter 13: Logbook** of the **Flight Handbook**.

SQUADRON PATCH

Finally, click the patch in the lower right-hand corner to choose a squadron patch. This will bring up a dialog box with a ton of various U.S. Air Force squadron insignia. You can then enter a squadron name in the box just below the patch.

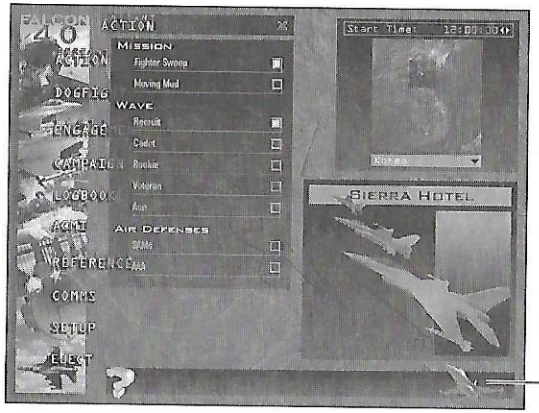
When you're finished with this screen, click the OK button on the Logbook to return to the *Falcon 4.0* main menu.

INTO THE SKIES!

And not a moment too soon! Now that you have your joystick configured, chosen your level of difficulty and entered a pilot persona, it's time to get busy. From the *Falcon 4.0* main menu, choose Instant Action. As mentioned earlier, Instant Action is the perfect place for rookie pilots to get their feet wet in a combat situation. The goal in Instant Action is to keep shooting down other aircraft, racking up as many points as possible before you get shot down. Nothing more, nothing less. At the beginning, though, we'll focus on a couple of basics before you get into combat.

A couple things to remember in Instant Action. First, you have unlimited weapons. Don't fire them haphazardly, though. While every aircraft you shoot down gets you points, each time you launch a missile, points are deducted from your final score. So, there is a definite reward for being accurate. Finally, whenever you get shot down and need to end the mission, just hit the [Esc] key.

First we'll look at the Instant Action setup screen which is where you set up the parameters of your Instant Action mission.



Fly Icon

MISSION

There are only two basic mission choices in Instant Action: Fighter Sweep (air-to-air) and Moving Mud (air-to-ground).

Fighter Sweep

Selecting Fighter Sweep puts you right in the middle of an air-to-air engagement against multiple enemy aircraft. Initially, you'll be in the air over Korea with a number of slow enemy bombers—but once you dispatch them, the real fun begins. You'll receive wave after wave of increasingly more challenging aircraft to encounter. Once you finish off one wave, another will appear. Continue until you are shot down or decide to eject.

For this first mission, make sure Fighter Sweep is selected. It won't matter too much, since we really just want you to get the feel of the aircraft. You won't be directly engaging any enemies this time around.

Moving Mud

The Moving Mud scenario pits you against a vast array of computer-controlled enemy ground forces. Just like in the Fighter Sweep mission, once you clear all enemy ground units, another set will appear. If you have air defenses turned on, the later waves become increasingly more accurate with their ground-to-air attacks.

WAVE

The Wave setting sets the initial skill level of the enemy air and ground units. As you clear out each wave of enemies, a more difficult wave will take their place. The higher the skill level you set, the more difficult the aircraft and pilots will be to overcome and the tougher the ground units will be.

Make sure for this first mission that you select Recruit. This is the easiest setting and one where aircraft won't start shooting at you right away.

AIR DEFENSES

These two check boxes allow you to increase the difficulty of either a Fighter Sweep or Moving Mud mission by adding the threat of specialized ground-to-air attacks. Surface-to-air missiles (SAMs) are special units that fire heat-seeking or radar-guided missiles at enemy aircraft. Likewise, anti-aircraft artillery (AAA) fire massive-caliber shells skyward, hoping to knock down planes that fly overhead.

You don't need the added pressure of avoiding these intense threats. Make sure both SAMs and AAA are unchecked.

MISSION MAP

In the upper right-hand corner, you'll see the Mission Map of Korea. The highlighted box in the center of the map is the starting point for the mission. You can move it around by clicking and dragging to another location on the map, but just leave it there in the middle for this first mission.

At the top of the map, you'll see a Mission Clock. The mission clock indicates the starting time of day for the Instant Action mission you're about to fly. It's displayed in 24-hour military time, so that 14:00:00 translates to 2:00 PM. If you want to change the start time, click the first set of digits and use the arrows to the right of the clock. For this first mission, just make sure it's a daytime mission (set it between 9:00:00 and 18:00:00).

SIERRA HOTEL

The Sierra Hotel (look *that* one up in the Glossary!) is the list of Instant Action high scores and the hot pilots that racked them up. If this is your first time playing Instant Action, this should be blank. But soon after you've played a few missions, it'll be filled up and then you'll have something tangible to shoot for!

? (HELP)

The Help icon (which looks like a question mark) in the lower left-hand corner of the screen is the online help feature of *Falcon 4.0*. If you're looking for more information about the user interface, click this Help icon.

TAKE OFF!

After you've set all your options for this mission, just click the Fly icon (the F-16 in the lower right-hand corner) to take off. Instant Action may take a little while to load, depending on which installation option you chose, so now is a good time to pull out the **Quick Reference Chart** and have it handy next to your computer.

Buckle up, rookie. Here comes your first in-flight experience!

VIEWS AND FLIGHT CONTROLS

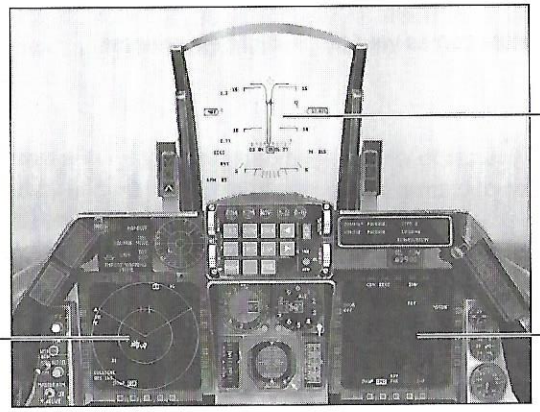
In all Instant Action missions, you'll start out at approximately 8,000 feet in the air, heading north. You'll also instantly be surrounded by the enemy, and you may hear a ton of voices over your in-flight radio. Don't worry about them for now.

First, take a deep breath, relax, and press the [P] key to pause the game. You should see the word "PAUSE" flashing onscreen. Before we go further, let's get you familiar with some of the views from your F-16.

TAKE A LOOK AROUND

There are a ton of different views in *Falcon 4.0*—some from inside the cockpit, others from outside the aircraft. Only a small handful are useful in a combat situation, and of those, we're only going to talk about two of them for now. The rest have complete explanations in **Chapter 22: The Views** of the **Flight Handbook**.

2-D Cockpit View

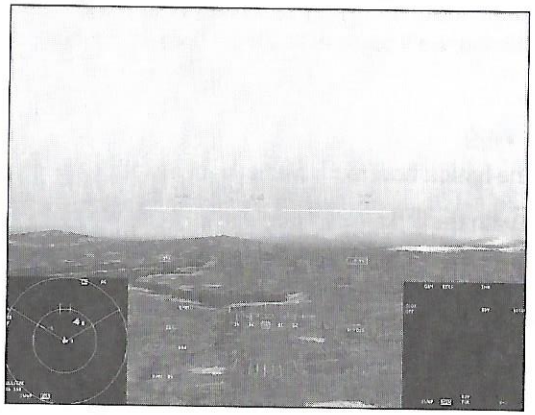


The 2-D Cockpit View is the default view in *Falcon 4.0*. If you're not in this view, switch to it by hitting the [2] key on the top row of your keyboard. While it provides access to the system instrumentation, the 2-D Cockpit doesn't give you a great view for fighting (since most of the space is taken up by those aforementioned instruments).

Although there are a ton of dials and gauges, we're only going to concern you with three things: the HUD (Head-Up Display) and the left and right MFDs (Multifunction Displays). We'll talk about those more in the next chapter.

If you're interested, use the hat switch on your joystick or [↑], [↓], [←] and [→] on your numeric keypad to look around your cockpit at the other instruments. Again, these aren't too useful in Instant Action combat.

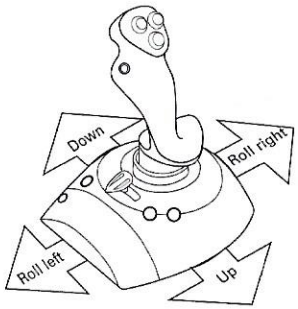
HUD Only View



The HUD Only view is a good view for fighting, as it gives you a unobstructed view of the action. Press the [1] key on the top row of your keyboard to engage the HUD Only view.

You'll see that all the cockpit instrumentation has been stripped away, the HUD is enlarged, and both the left and right MFD are in your view. Otherwise, this front view is clear and uncluttered. Remember this view for later when we talk about air-to-air combat.

FLYING YOUR F-16



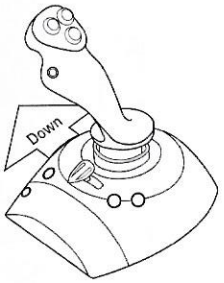
Back to the lesson at hand, hit the [2] key to return to the 2-D Cockpit view. For your first hands-on experience, we'll begin with a flight primer: climbing, diving, turning and throttle controls.

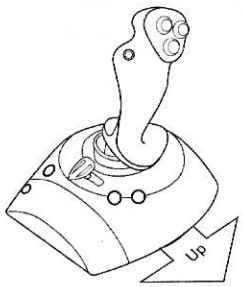
Climbing and Diving

Let's start off with the basics: how to maneuver your aircraft up (climb) and down (dive).

Unpause the game with the [P] key.
You should be flying straight and level.
If your joystick has a throttle, make sure it is set to the halfway position.

Gently push your joystick directly forward. You'll notice that your F-16 is now in a slight dive and you'll be losing altitude while gaining airspeed.





Next, pull back on the joystick until you see the horizon line in the middle of your screen. Pulling back on the joystick makes your F-16 gain altitude but you'll also lose some airspeed. That's what pilots call "trading altitude for speed" or "trading speed for altitude."

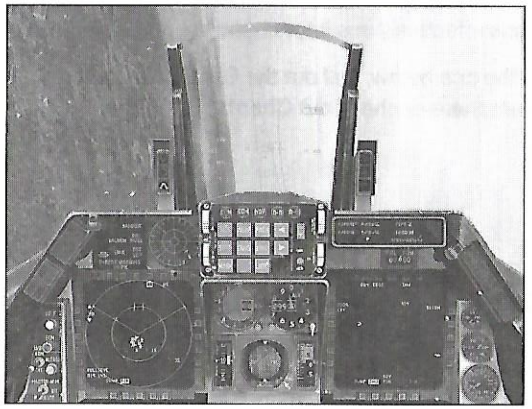
When you seem to be flying straight and level, press the [P] key again to pause the game.

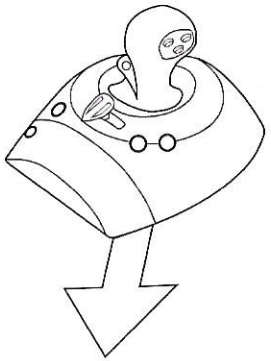
Banking Left and Right

First thing to remember about turning in an aircraft: your F-16 is not a car. That means you can't turn one way or the other just by pushing the joystick to the left or right. To execute a successful turn, you'll have to bank (turn) one direction and then pull back on the stick.

Unpause the game by pressing the [P] key. Push your joystick all the way to the left. Notice how your aircraft is beginning a roll rather than actually turning to the left? Keep rolling until you're straight and level again.

To make a turn, gently push your joystick to the left until the ground horizon is almost vertical. Then pull back on your stick (see the screen and diagram below).





You should be slowly making a turn to the left. Pulling back on the stick too hard will cause the nose of your aircraft to rise and your speed will drop rapidly. Not enough "pull" and you'll see your nose drop relative to the horizon.

After you turn, stop pulling back and then roll right until you're straight and level again.

Now, play around with the flight controls a bit. Remember that you don't have to slam the stick around for your F-16 to respond. Keep your movements gentle until you gain familiarity with how the aircraft flies.

Increasing and Decreasing Speed

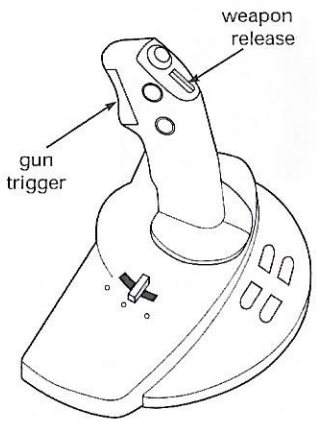
Now that got the basics of flight down, you'll need to know how to increase and decrease your airspeed. When you're climbing into the sky, you're working against gravity and, therefore, need to "give it more gas." If you're going into a dive, gravity is working with you and you can ease off the throttle.

Use the [+] key to increase your throttle and the [-] key to decrease thrust. You can also hold down the [Shift] key and press [+] to increase to full throttle (kicking in the F-16's afterburners). If you have a throttle on your joystick, use that instead. We'll teach you where to read your airspeed and how to see what your throttle percentage is in the next mini-lesson.

FIRING WEAPONS

We'll just briefly go over how to fire weapons right now. There'll be a more detailed description of how to use your weapons effectively in a later chapter.

If your joystick doesn't look similar to the one below, pull out the **Quick Reference Chart** and refer to your joystick diagram there or check out **Chapter 16** in the **Flight Handbook**.



Guns

Pull the trigger or hit the [/] key to squeeze off a burst of 20mm cannon rounds. If you're shooting for a high score in Instant Action, your cannon is the way to go. You have unlimited shots and, unlike the other weapons, the cannon doesn't cost you any high score points when you fire it.

Missiles/Rockets/Bombs

This joystick button (or the [Spacebar] key) is used to launch whichever missile, rocket or bomb is currently selected. (Select air-to-air weapons by pressing the [Enter] key and air-to-ground weapons with the [Backspace] key.) Remember that in Instant Action, each time you fire a weapon (excluding the gun), you'll lose points. So if you want a high score, you need to make those shots count.

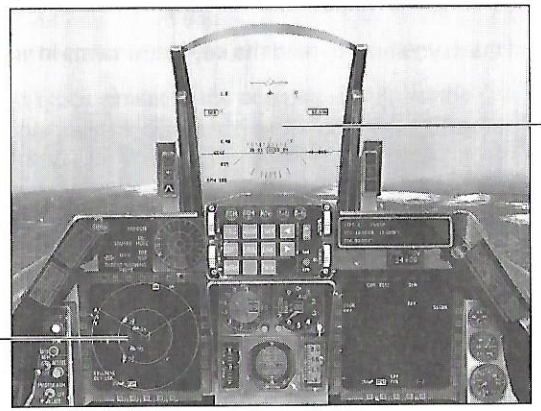
FINISHING UP

Take some time now to get used to the handling of your F-16. Increase the throttle, maneuver around, shoot off a few weapons, whatever it takes. When you're ready to continue with the training, hit the [Esc] key and then press [E] to end the mission. You'll now see a box showing your score for this mission—click the X in the upper right to close the box. The Debriefing window will then display your mission performance.

Your next lesson will teach you how to read the key instruments in your cockpit.

COCKPIT INSTRUMENTS

Your F-16 is a complex aircraft with so many buttons, dials, gauges, readouts and displays that you can understand why it takes years for an F-16 driver to learn the ropes. Fortunately, since you set the Avionics setting to Easy in the Setup section, you only have to learn a couple of things before mixing it up in the skies.

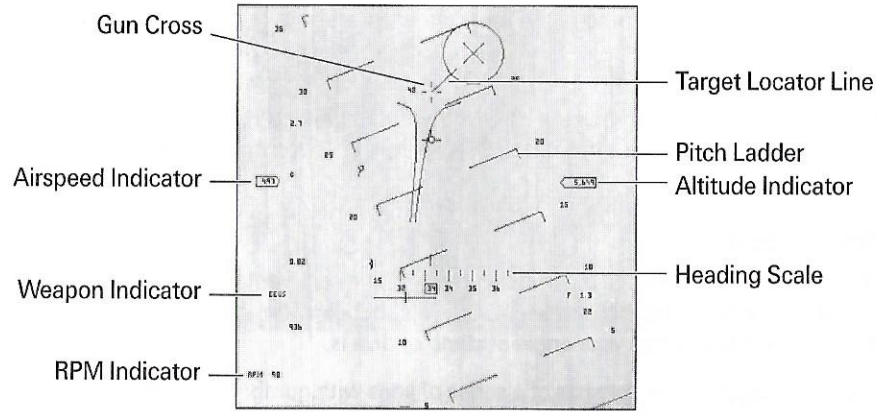


The Head-Up Display (referred to as the HUD) and the radar display are the two primary devices you'll need for flying and fighting in the F-16. The HUD shows critical in-flight readouts like your altitude, airspeed and heading, while the radar displays air and ground threats.

First, launch another Instant Action mission (with the default settings) by pressing the Fly icon in the lower right. Once you're in the cockpit, press the [P] key and read on.

THE HEAD-UP DISPLAY (HUD)

The F-16's HUD is actually a set of readouts projected onto a glass at the front of your cockpit. This set of readouts is your primary source of information on airspeed, altitude, heading, and target-related information. Many of these instruments are duplicated as standard dials and gauges in other parts of the cockpit, but they've been combined here so that the pilot doesn't have to take his eyes off a target in combat.



Altitude Indicator

The altitude indicator on the right side of the HUD displays your altitude in feet above sea level, not above the ground. This is important to note since you won't be able to rely on this gauge when diving down towards ground targets.

Airspeed Indicator

Directly across from the altitude indicator, you'll see the airspeed indicator on the left side of the HUD. This device registers your F-16's airspeed in knots.

Generally speaking, when you're in air combat, you want to fly somewhere between 400 and 500 knots. This will give you enough thrust to climb rapidly or make the fastest turn if you need to. Faster speeds increase the radius of your turn, while slower speeds reduce your ability to bring your aircraft's nose around and keep your bird under control.

When you're going up against a ground target, you'll probably want to reduce speed to 300–350 knots to give you enough time to line up with your target.

RPM Indicator

The RPM (Revolutions Per Minute) indicator displays how much throttle you are currently applying (by the use of the [+] and [−] keys or throttle control). It's displayed as a percentage of RPM, and a number over 100% means that you have engaged the afterburner for added power.

Weapon Indicator

In the lower left-hand corner of the HUD is a small indicator that represents which weapon type you currently have selected. Right now, it should read "EEGS" which means that your 20mm gun is chosen. A complete list of weapons and their abbreviations can be found at the end of the next two chapters.

Heading Scale

This readout on the bottom of the HUD shows what direction your F-16 is flying. The number is listed in degrees (from 0 to 359), where 0° is North, 90° is East, 180° is South and 270° is West.

Pitch Ladder

The pitch ladder appears in the middle of the HUD whenever the nose of your F-16 is 20° above or below the horizon line. Once you get below that point, it's sometimes difficult to tell how steep your angle of climb or dive is.

The F-16's pitch ladder consists of a series of lines with numbers at both ends of the line that show your angle of climb or dive. Each line indicates 5° of climb or dive. One more thing to note: if the lines of the pitch ladder are dashed, that means you are descending. Solid lines indicate that you are climbing.

Gun Cross

That small "+" in the center of your HUD is the gun cross and indicates the nose of your aircraft. It also shows where shells from your gun would go if you're flying straight and level. It's additionally important because the target locator line appears from this marker.

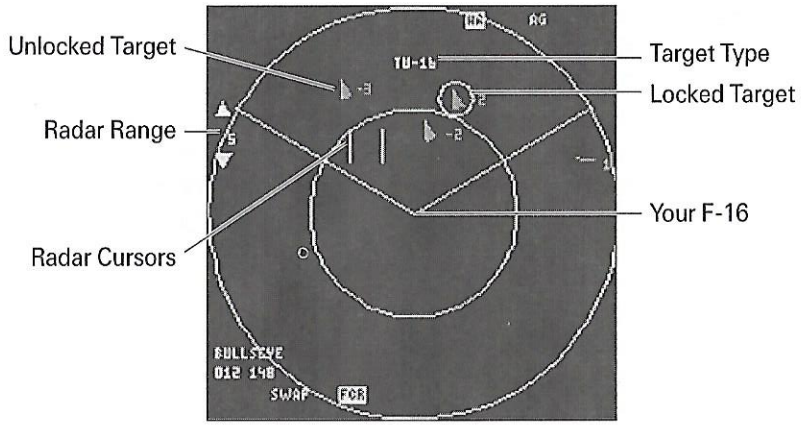
TARGET LOCATOR LINE AND TARGET DESIGNATOR BOX

The target locator line appears in combat when you have a locked air-to-air target on your radar that is not within your immediate sight. It points from the gun cross in the direction of the target. When your locked-on target gets within 30° to either side of you, the target locator line goes away to be replaced by the target designator box. The target designator box is a small box that surrounds the locked target on your HUD.

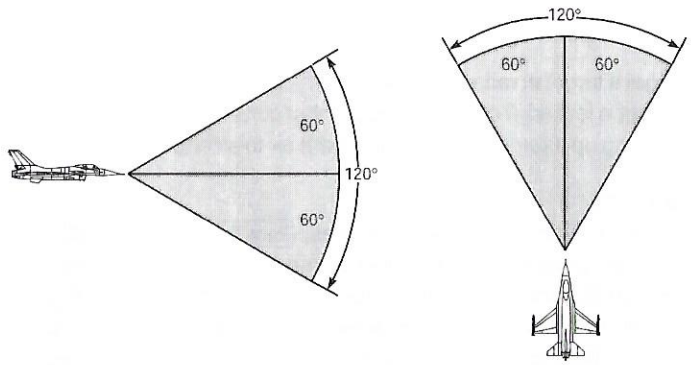
There will only be one target designator box on your HUD because you can only be locked onto one target at any given time. Once your target leaves the confines of the HUD, the target locator line will appear again.

RADAR DISPLAY

Your radar display has a number of uses, but its primary capacity is to identify air and ground threats and to target those threats for elimination. It has two main modes (air-to-air and air-to-ground) and can be found in the lower left MFD (Multifunction Display). Air-to-air and air-to-ground radar modes operate basically the same way, so the following description applies to both.



The radar display looks like a bullseye, since it consists of two concentric circles. Your aircraft is located in the center of this bullseye. The radar is read from a 360° "god's-eye" view—that is, looking from the top down. Therefore, the top of the radar screen is directly in front of your aircraft, while the bottom of the radar is directly behind you.



There's also a pie-shaped wedge starting from the center of the radar and widening to the top. This is the radar cone and is always directly in front of your aircraft showing the area where you can lock onto targets. For effective missile shots, you must lock onto a

target before firing. Targets outside this radar cone cannot be locked up, but any locked target that exits the cone will remain locked up.

Press the [F1] key to show air-to-air radar, or press the [F2] key to display air-to-ground radar.

Legend

In both air-to-air and air-to-ground radar, enemy units appear in red, friendly units (and missiles) appear in blue, while neutral units appear in green. The number next to each aircraft tells you the relative elevation (in thousands of feet) that the plane is from you. For example, if an aircraft has a "-2" next to it, that plane is 2,000 feet below your F-16.

Triangles are aircraft, and missiles are colored dashes. Small squares are tanks or other ground vehicles, while larger squares are buildings. The triangles that represent aircraft have one angle that's sharper than the other two (where the two long sides come to a point). You can determine the direction aircraft are heading by noticing where that sharp angle is pointing.

Radar Range

In the left-hand side of the radar display, you'll see the current radar range in miles. You can adjust the range up or down with the [F4] and [F3] keys respectively. The radar range shown extends from the center of the bullseye to the edge of the outer circle, and the range can be set to 5, 10, 20 or 40 miles.

Locking Up a Target

Now that you have the radar basics down, let's guide you through the process of locking up a target, both automatically and manually. For most weapons—in particular air-to-air missiles and the air-to-ground Maverick missile—you must have a target acquired and locked onto with your radar to hit that target. You don't (and can't) get a target lock with your 20mm guns.

Before you can get a target in radar lock, you must have that object within your 60° radar cone. Once a target is locked, it can go outside of that cone and still be locked. As we mentioned earlier, locking up a target is the same in both air-to-air and air-to-ground situations.

AUTOMATIC LOCKING

Once a target is within your 60° radar cone, press [Page Down] to automatically lock that target. When you get a radar lock, the object in question will have a green circle around it. You can now switch between targets in your radar cone by pressing [Page Down] for the next target farther away from you or [Delete] for the next target nearer to you. In addition, you can hit [End] to lock up the closest target directly in front of you.

Automatic locking is by far the easier of the two methods, but it only works on targets that emit a radar signal. That means targets like bridges, buildings and the like will have to be locked up manually.

MANUAL LOCKING

Manual locking of targets is slightly more complex than the automatic locking, but it's a good process to learn. It's particularly useful when you want to bust up some enemy buildings, bridges or airfields.

The manual locking method requires you to move the radar cursors (those two small vertical bars in the radar display) so that the target is between the bars by using the [↑], [←], [→] and [↓] keys. Then designate that target manually by hitting [0] on the numeric keypad. As with automatic locking, when you lock up a target, that object will have a green circle around it. To break the lock again, just press the [.] key on the numeric keypad.

Manual locking is fairly straightforward once you get the hang of it. The tricky part is designating a target while flying your bird. An easier way to do it is to pause the game by holding down [Shift] and pressing [P]. This pauses the game but at the same time allows you to operate your radar.

TARGET IDENTIFICATION

Once you have a target locked, you can identify what type of object it is by a target identification label at the top of the radar. Descriptions of all air and ground units can be found by clicking Tactical Reference at the *Falcon 4.0* main menu.

THE NEXT STEP

All right, now that you know how to fly and understand the rudimentary cockpit instrumentation, it's time to toss you into the mix. Your next step will be an air-to-air combat engagement against a wave of enemy bombers.

AIR-TO-AIR ENGAGEMENTS

The F-16 is a multirole fighter aircraft—while it's great at air-to-ground bombing missions, it's best known for its dogfighting capabilities. Whether it comes in the form of an escort mission, a defensive combat patrol or an air-to-air assault, the Fighting Falcon is ready for the task.

In this exercise, you'll take what you've learned so far and apply it to a fairly simple air combat attack on an enemy Tu-16 or IL-28 bomber. You'll choose an air-to-air missile, maneuver your F-16 so that the bomber is in front of you, lock onto the enemy with your radar, then launch missiles to take down the threat.

You should already be in an Instant Action Fighter Sweep mission with the simulation in pause mode. If not, go to Instant Action from the *Falcon 4.0* main menu, make sure Fighter Sweep is selected, and then hit the Fly icon in the lower right-hand corner. Once you get into the cockpit, press the [P] key to pause the game.

BOMBER HUNTING

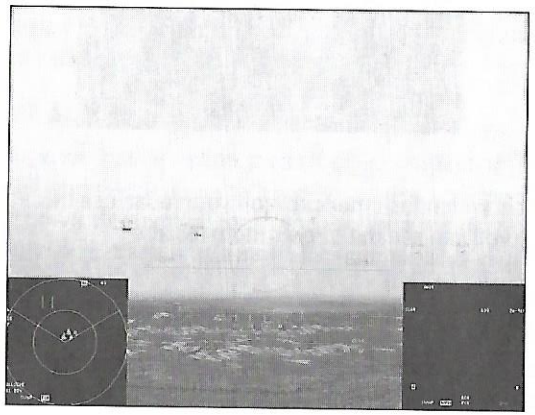
For this air-to-air mission, we'll concentrate on the basics of what you need to do to take down one of these classic bombers. From the front view, you should see a number of aircraft off in the distance in front of you. Those are the ones you'll be going after.

First, change to the HUD Only view by pressing the [1] key on the top row of your keyboard. This'll give you the largest field of vision for this engagement and only put up the HUD and both MFDs on your screen. You should see your radar display in the lower left MFD. If it's not there for some reason, press the [[] key until it appears in the display.

Since you'll have to do a number of things in fairly rapid succession, you should probably skim the remainder of this section first before actually attempting the things described here. That way, you'll get a ballpark idea about what's going to be expected of you before you're called to action.

Step 1: Select Air-to-Air Missile

Unpause the game by pressing the [P] key. Set your RPM to 80 using the [+] and [-] keys so that you don't overshoot the bombers. Now, choose the AIM-9M missile by pressing [Enter] until "SRM" appears on your weapon indicator in the lower left-hand corner of the HUD. The AIM-9M is a heat-seeking, all-aspect missile that is good at medium to close range. Your HUD should now have a circle in the middle of it.



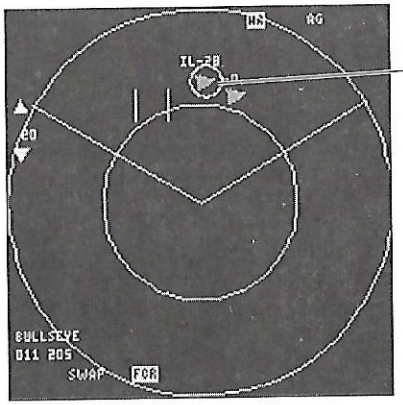
Each time you hit the [Enter] key, you'll select another air-to-air weapon, but leave it at the AIM-9M for now.

Step 2: Select a Target

Look out over the horizon and select one of the bombers to go after. Maneuver your F-16 so that the bomber you've chosen is directly in your front field of view and that you're flying straight and level towards it. Now, make sure you're flying at about 350 knots so you won't be approaching too rapidly. Use your throttle controller or the [+] and [-] keys to adjust your airspeed.

Step 3: Acquire Radar Lock

Press the [End] key to get a radar lock on the enemy bomber. Now, check your radar display. One of the red triangles (aircraft) should now have a green circle around it which indicates that you've locked onto it with your radar. The word "IL-28" or "TU-16" should also appear at the top of your radar display. If you don't have a radar lock for some reason, use the [Delete] or [Page Down] keys to lock up the nearest target. Your radar should now look similar to the screen on the next page.



Locked Target

If the target aircraft is within the inner circle on your radar, use the [F3] key to decrease your radar range so you can see the targets more clearly.

Step 4: Close to Target

Now that you've selected a weapon and locked up your target, you need to close in for the kill! You may need to close on the target by using the [+] and [-] keys or your throttle controller. Continue heading at the bomber you've locked up. Check the radar occasionally to make sure that you're getting closer to your target. If it's getting farther away, increase your throttle until you start gaining on the target.

Another way to check the range of your target is to look at the text in the lower right-hand side of the HUD. There, you'll see the letter "F" followed by a number. If it's a two-digit number (e.g., "F2.3"), that's the distance to the target in miles. When the display changes to three digits (e.g., "F895"), the distance has changed to feet. Finally, if you happen to see a large "X" in the middle of your HUD, you are too close to fire missiles and will have to back off before firing.

Step 5: Fire Missiles

Now for the fun part. Keep a close eye on your HUD, especially the circle in the middle. When you get within firing range of the bomber, you'll see the word "SHOOT" appear in large letters in the center of the HUD. When you see this, keep your F-16 pointed at the target and press your weapon release button twice to shoot off two missiles. You'll hear a whooshing sound and see two lines of smoke roaring from either side of your aircraft as the missiles head toward their target.

Keep an eye on those missiles and the bomber and listen to your onboard radio. When the missiles hit, you should hear a radio officer telling the world about your success. Congratulations! You've learned the basics of air-to-air missile attacks. Now, keep practicing on the other bombers in the area. But, keep alert. Soon, you'll be confronted by more agile MiG-19 fighter planes.

Countermeasures

On a final note, your F-16 has a few defenses against incoming missiles fired by enemy aircraft. Two of these are called chaff and flares and are pilot-controlled defenses. This means that when an incoming missile gets close to your aircraft, you can release these countermeasures in an attempt to force the missile to change targets. Press [X] to drop chaff and press [Z] to dump flares.

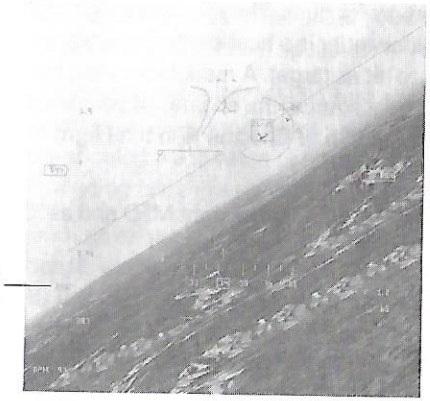
Chaff works best against radar-guided missiles, while flares are more effective against heat-seeking missiles. If you know a missile is getting close but aren't sure what kind of missile it is, you might as well dump liberal amounts of both chaff and flares. No use saving them if you're in danger of getting shot down!

EXITING INSTANT ACTION

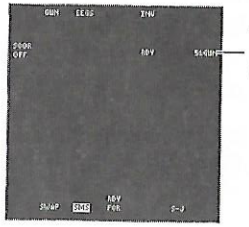
When you're ready to leave Instant Action, press the [Esc] key and hit [E] for End Mission. This'll take you to the Debriefing where you'll receive a score and can see how many aircraft you knocked down. Remember, each time you fire a missile, your score will decrease. You'll need to be extremely accurate with your missiles to get a top score.

AIR-TO-AIR WEAPONS ARSENAL

Here's a brief description of all the air-to-air weapons available in Instant Action—in the order that they appear when cycling through with the [Enter] key. The abbreviation in parentheses after the weapon name is the designation you'll see in the upper right-hand corner of the right MFD. This'll display the exact weapon type you have selected.



Weapons Indicator



Weapon Selected

Complete details on how to use all the air-to-air weapons on your F-16 (including other weapons not listed here) can be found in **Chapter 4: Air-to-Air Weapons** of the **Flight Handbook**.

20mm Cannon (51GUN)

Your Vulcan 20mm cannon is the primary weapon for close-in air-to-air combat. When you get hot and heavy within a mile of an enemy aircraft, your missiles will be almost useless. That's the time to switch to guns and blaze away.

One quick note about guns. To be successful with guns, you need to aim just in front of where your target aircraft is going. This is known as "leading" your target. A complete tutorial on using your guns in air-to-air combat can be found in Training Mission 14 of **Chapter 4** in the **Flight Handbook**.

The 20mm cannon will appear as "51GUN" in the right-hand MFD and as "EEGS" in the lower left corner of the HUD.

AIM-120 AMRAAM (2A120)

The AIM-120 AMRAAM is a medium- to long-range radar-guided missile useful for distance attacks between 3 and 20 nautical miles. This versatile missile is the most advanced missile on your F-16 due to its "fire and forget" capability. Fire-and-forget means that once you have radar lock on a target and fire your missile, you can break lock and go after another target while your fired missile is still on track. For more details, read Training Mission 16 of **Chapter 4** in the **Flight Handbook**.

The AIM-120 AMRAAM will appear as "2A120" in the right MFD and as "MRM" in the lower left corner of the HUD.

AIM-9M Sidewinder (2A9LM)

The short-range AIM-9M Sidewinder missile is used for attacks when you're too close for the AMRAAM missile and too far away for guns. The effective range of the AIM-9M is .5 to 4.3 nautical miles. Since the Sidewinder is a heat-seeking missile, you do not have to have a radar lock for AIM-9M to hit its target. A radar lock helps, but since the Sidewinder goes after the nearest heat source (the engines of your enemy), it's not 100% necessary. Read Training Mission 15 of **Chapter 4** in the **Flight Handbook** for more information.

The AIM-9M Sidewinder will appear as "2A-9LM" in the right MFD and as "SRM" in the lower left corner of the HUD.

AIR-TO-GROUND ENGAGEMENTS

While air-to-air combat is the heart and soul of the F-16, it's no slouch on ground attacks. With a wide array of bombs, missiles and rockets, the Falcon is highly suited for surgical strikes, devastating bomb runs or general ground chaos.

With this exercise, you'll use your knowledge to take out a slow-moving ground vehicle. You'll choose the air-to-ground AGM-65 Maverick missile, maneuver your F-16 so that you're on an approach run to your target, lock on the vehicle with your radar, then launch a pair of missiles to destroy the target.

From the *Falcon 4.0* main menu, choose Instant Action and then make sure Moving Mud is selected for the mission and Recruit is selected for the wave. Once you've done that, click the Fly icon in the lower right-hand corner. When the cockpit appears, press the [P] key to pause the game.

GROUND POUNDING

In this Instant Action mission, we'll teach you how to destroy a ground target using your air-to-ground missiles. At first glance, it doesn't seem like anything is out there to shoot at. Just you wait—soon you'll have plenty of sitting ducks for your targeting pleasure.

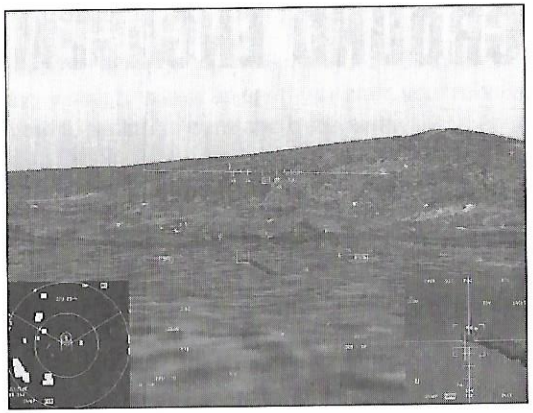
Since you'll start in the cockpit in the 2-D Cockpit view, switch to the HUD Only view by pressing the [1] key. As with air-to-air engagements, you'll want the widest field of vision for your missile attack run. The lower left MFD should show the radar display. If it doesn't, press the [I] key until it appears.

Now, take a look at the lower left MFD. There should be tons of medium-sized squares littering the landscape. Those represent major buildings and bridges in the area. In addition, there should be a number of smaller squares representing tanks and other vehicles. We're going to go after one of them.

Now is a good time to quickly look over the rest of this chapter and familiarize yourself with the concepts we're going to describe. Firing a Maverick isn't all that difficult, but it's a bit tricky if you're reading and flying at the same time!

Step 1: Select Air-to-Ground Missile

First, unpause the game by pressing the [P] key. You'll now need to select the AGM-65B Maverick missile by pressing [Backspace] until "1AG65G" appears on the right side of your right MFD. The Maverick is a guided missile that is used primarily against armored vehicles such as tanks. Since you're set up to use Easy Avionics, the Maverick can also be used effectively against buildings, bridges and the like (although this won't work in other Avionics modes).



Each time you hit the [Backspace] key, you'll select another air-to-ground weapon. Keep it on the Maverick right now since most of the other weapons are fairly complex to use. We will discuss a few of them, but the rest are fully described in **Chapter 5: Air-to-Ground Weapons** of the **Flight Handbook**.

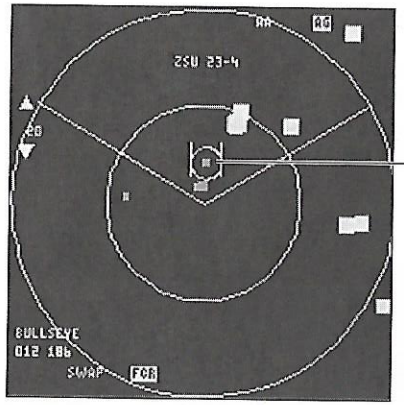
Step 2: Select a Target

Take a quick look at your radar display in the left-hand MFD. As mentioned before, you should see a number of medium-sized squares and a few smaller squares (ground units). If most of the ground vehicles are behind you, fly straight and level for a ways until the ground units are at the bottom of your radar scope. Then, bank left and turn all the way around (180°) so that the ground units end up at the top of your scope. That'll give you a good, clean approach run.

Now, adjust your airspeed with the [+] and [-] keys or your throttle controller so that you're flying at about 300–350 knots. You can also slow down with the speed brakes by pressing the [B] key. This is a good way to maintain your RPMs while reducing speed and allows you to regain airspeed quicker than throttling up and down. Press [B] again to retract the brakes.

Step 3: Acquire Radar Lock

Press the [Page Down] key to get a radar lock on one of the ground units. Check your radar display in the lower left MFD to make sure that a green circle is now surrounding one of the red squares. Since that ground unit is probably too close to make a successful missile run at, go ahead and keep pressing the [Page Down] key until you acquire a ground unit about halfway up the radar. Your radar display should look something like the following screen:



Locked Target

Step 4: Maneuver into Position

OK, you've chosen a ground unit and selected the Maverick missile. Now you need to lose altitude so that you're approaching the target at a good approach angle. Dive down at a 15°–20° angle toward the ground until your altitude indicator on the HUD is at about 3,000 feet, then level out. To execute your dive, push forward on your joystick until you see the pitch ladder in the HUD read between -15° and -20°. If you pass by your target, use the radar lock keys ([Page Down] and [Delete]) to find another one within your radar cone.

You should now be approaching at about 300 knots, flying fairly straight and level. Use the [+] and [-] keys or your throttle to make sure your airspeed is correct.

Step 5: Fire Missiles

Now, watch the center of the HUD. Once you get within range of the ground unit, you'll see the word "SHOOT" appear in large letters over the center of the HUD. Make sure your F-16 is still heading for the target and press the weapon release button on your joystick to fire off an AGM-65B missile. You'll hear that familiar rocket launch sound and see the Maverick cruising towards the target.

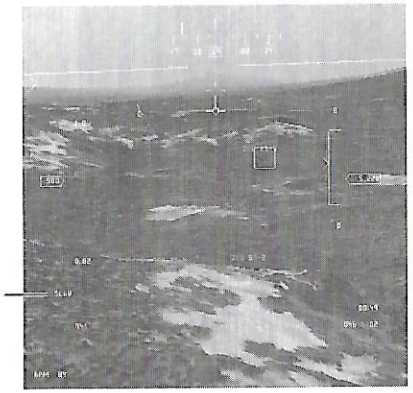
You'll notice that once you get a radar lock on a ground unit that an infrared picture of that object will appear in the right MFD. This is pretty cool, because once you fire your Maverick, you can watch a close-up view of that object getting eliminated! When the missile hits, you'll see a column of smoke rising from the wreckage of that unit. Well done! Pull your bird back up into the sky, swing around and keep nailing those tanks.

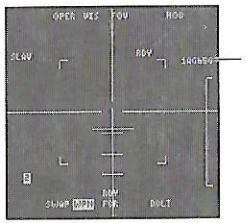
Exiting Instant Action

When you're ready to leave, just hit the [Esc] key and select [E] to End Mission. As with the air-to-air engagement, you'll be presented with a high score and then a debriefing about how many ground units and buildings you plugged. Each weapon you use subtracts from your score.

AIR-TO-GROUND WEAPONS ARSENAL

Below is a short overview of the air-to-ground weapons you can employ in Instant Action. These are described in the order they appear when you cycle through using the [Backspace] key. Abbreviations in parentheses after the name of the weapon are the designations you'll see on the right side of the right MFD.





1AG65G

Weapons Indicator

Everything you ever wanted to know about the air-to-ground weapons of the F-16 can be found in **Chapter 5** of the **Flight Handbook**. Of particular note in that chapter are instructions about using free-fall bombs, which are fairly tricky to drop accurately.

Mk-82 Iron Bomb (3MK82)

The Mk-82 iron bomb is a smaller cousin to the Mk-84 bomb, since it only packs a 500-pound payload. This free-fall bomb is used against smaller ground targets such as tanks, unreinforced buildings and infantry. Learning how to drop the Mk-82 accurately is an involved process and is described in Training Mission 19 in **Chapter 5** of the **Flight Handbook**.

The Mk-82 iron bomb will appear as "3MK82" in the right side MFD and as "CCIP" in the lower left corner of the HUD.

GBU-24 Laser-Guided Bomb (1GB24)

A GBU-24 laser-guided bomb differs from a free-fall iron bomb in that the GBU "glides" into a target instead of simply falling from the sky like a rock. Its potent punch will knock out any number of targets (bridges, buildings, tanks, etc.), but the drawback is that you have to lock the target with your radar and then follow the bomb into the target. Launching a GBU is completely explained in Training Mission 25 in **Chapter 5** of the **Flight Handbook**.

The GBU-24 Laser-Guided Bomb will appear as "1GB24" in the right side MFD and as "SLAV" in the lower left corner of the HUD.

GBU-10 Laser- Guided Bomb (1GB10)

The GBU-10 is a 2,000-pound laser-guided bomb designed as a guided version of the Mk-84. Because it has a wider blast radius but less penetration power than the GBU-24, it should be used on unreinforced buildings and the like. Check Training Mission 25 in **Chapter 5** of the **Flight Handbook** for more information.

The GBU-10 Laser-Guided Bomb will appear as "1GB10A" in the right side MFD and as "SLAV" in the lower left corner of the HUD.

AGM-88 HARM Missile (1AG88)

The AGM-88 HARM (High-Speed Anti-Radiation Missile) is used solely to find enemy radar installations and knock them out. In many ways, it's very similar to the AIM-120 AMRAAM air-to-air missile. The biggest difference between the two is that the radar of the ground unit in question must be emitting for the HARM to detect it. In Easy Avionics mode, the HARM operates in a similar manner to the AGM-65 Maverick described in this chapter. Read more about it in Training Mission 26 in **Chapter 5** of the **Flight Handbook**.

The AGM-88 HARM will appear as "1AG88" in the right side MFD and as "HTS" in the lower left corner of the HUD.

20mm Cannon (51GUN)

The same cannon used for air-to-air engagements can be used to attack ground targets as well. Considering that its fire rate is fairly slow and that you have to be fairly close to the ground to use it, the cannon is a last-resort weapon at best. When selected, you'll see a small circle in the HUD that indicates the direction the bullets will track. Read more about using the cannon in Training Mission 22 in **Chapter 5** of the **Flight Handbook**.

The 20mm cannon will appear as "51GUN" in the right side MFD and as "STRF" in the lower left corner of the HUD.

AGM-65 Maverick (1AG65G)

The AGM-65 Maverick missile is the weapon of choice when firing on vehicles and lightly fortified buildings. As mentioned before, in Easy Avionics mode, the Maverick is also effective against larger structures. Details on how to use the Maverick were detailed earlier in this chapter, and can also be found in Training Mission 24 in **Chapter 5** of the **Flight Handbook**.

The AGM-65 Maverick missile will appear as "1AG65G" in the right side MFD and as "SLAV" in the lower left corner of the HUD.

LAU Rocket Launcher (19RCKT)

Your Instant Action F-16 is equipped with an LAU rocket launcher that fires a 19-missile barrage of high-speed rockets. These rockets aren't that effective against large buildings and structures, but can wreak havoc on an infantry unit or truck convoy. You aim a rocket attack in a similar manner as the 20mm cannon in strafe mode. If you need more details, read about them in Training Mission 23 in **Chapter 5** of the **Flight Handbook**.

The LAU rocket launcher will appear as "19RCKT" in the right side MFD and as "RCKT" in the lower left corner of the HUD.

CBU-52 Cluster Bomb Unit (3CB52B)

A CBU-52 Cluster Bomb Unit is a free-fall bomb similar in operation to the Mk-82 iron bomb described earlier. The biggest difference is that while the Mk-82 is good against one target in a limited area, the CBU releases a number of bomblets that disperse over a wide area. This makes it the perfect choice for use against "soft" targets like personnel and light vehicles. Dropping a CBU requires knowledge of the CCIP bombing system described in Training Mission 19 in **Chapter 5** of the **Flight Handbook**.

The CBU-52 Cluster Bomb Unit will appear as "3CB52B" in the right side MFD and as "CCIP" in the lower left corner of the HUD.

GLOSSARY

Here are a few of the commonly used words and phrases in this **Cadet's Guide**. For a complete glossary of *Falcon 4.0* terms, flip to **Appendix B: Glossary** of the **Flight Handbook**.

Afterburner – Power to your engines that exceeds your aircraft's normal full throttle. Afterburner is achieved by spraying fuel directly into the engine. It makes you go fast, but drinks a lot of gas.

AGM-65 – The Maverick air-to-ground missile. A decent missile for use on small buildings, tanks and other lightly armored vehicles.

AGM-85 – The HARM air-to-ground missile. Good for taking out surface-to-air missile launchers.

AIM-9 – The Sidewinder air-to-air short-range dogfight missile. In terms of Instant Action, the AIM-9 is actually an AIM-9M all-aspect infrared missile. The Sidewinder has a range of 0.5–4.3 nautical miles.

AIM-120 – The AMRAAM air-to-air medium- to long-range missile. It has an effective distance of 3–20 nautical miles.

AMRAAM – Advanced Medium Range Air-to-Air Missile. See *AIM-120*.

Bandit – An aircraft confirmed as hostile.

Bank – To turn your aircraft to the left or the right.

Bird – Slang for aircraft.

Callsign – The moniker for a particular fighter pilot.

Chaff – Packets of tiny foil strips designed as a countermeasure for radar-guided missiles.

Climb – To increase altitude. This is achieved by pulling back on your stick.

CBU – Cluster Bomb Unit. A free-fall bomb that releases a number of high-explosive bomblets in a wide area.

Dive – To decrease altitude. This is achieved by pushing forward on your stick.

Dogfight – An air-to-air encounter with enemy aircraft.

Flares – Magnesium packages designed as a countermeasure for heat-seeking missiles.

Furball – Slang for a heated air-to-air engagement.

GBU – Guided Bomb Unit. Also known as a Laser-Guided Bomb (LGB).

HARM – High-Speed Anti-Radiation Missile.

Head-Up Display – The slab of glass in front of your F-16 that contains a number of important instruments for firing weapons and for determining altitude, speed and heading.

HUD – Short for Head-Up Display.

Knots – Nautical miles per hour.

IL-28 – Soviet-built bomber aircraft that has been phased-out in most militaries.

MiG-19 – One of the earliest Soviet-made fighter aircraft. The "Farmer" is very maneuverable, but doesn't pack many weapons.

Pitch Ladder – A HUD indicator showing the F-16's angle of climb or dive.

Radar Lock – The act of acquiring an air or ground target with your F-16's radar for purposes of firing a weapon at that target.

SAM – Surface-to-Air Missile. Examples of SAMs include the SA-2, SA-3, SA-5, SA-7, Hawk and Patriot missiles. These missiles are designed to shoot down aircraft from the ground.

Sidewinder – The name of the AIM-9 air-to-air missile.

Sierra Hotel – Sh*t Hot. An expression of admiration used for the best fighter pilots. In Instant Action, it's the high score list.

CUSTOMER SUPPORT

If you are having technical difficulties with the *Falcon 4.0* CD-ROM game, please consult the README.TXT file on the CD-ROM before calling technical support. If you call technical support, please have the following information available (and be ready to take notes):

1. The correct name of the game.
2. The type of computer you are running the game on.
3. Exact error message reported (if any).

For telephone technical support, please call **(410) 568-2377**. Support hours are from 8:00 a.m. to 12:00 midnight, Eastern Standard Time, Monday through Friday, and from 8:00 a.m. to 8:00 p.m., Eastern Standard Time, Saturday and Sunday, holidays excluded. No game hints will be given through this number.

You may also communicate with our technical support via the Internet at:

http://support.hasbro.com

This site contains an up-to-date interactive knowledge base and email contacts for technical support. To find out more about the *Falcon 4.0* CD-ROM game or any other MicroProse or Hasbro Interactive product, please visit our main Web sites at:

http://www.microprose.com

http://www.hasbro-interactive.com

Kids, check with your parent or guardian before visiting any Web site.

WWW.FALCON4.COM

Falcon 4.0 has an exciting Web site dedicated to ensuring you get the most out of your new game. Visit us at www.falcon4.com and discover technical support, tips on techniques from real F-16 pilots, downloadable missions, message boards, software updates, information on virtual fighter squadrons, links to related sites and more! We are constantly updating our *Falcon 4.0* Web site so stop by and visit us frequently.

How to Get Help:

If you are having problems with *Falcon 4.0*, we can best help you if (1) you are at your computer when you call and (2) you have the following information handy:

- Version number of *Falcon 4.0*
- Your computer's processor and its speed (such as a 166MHz Pentium)
- Your computer's brand and model
- Total RAM installed in your computer
- Version of DirectX drivers
- CD-ROM brand and model name
- Video card brand and model name
- Sound card brand and model name
- Mouse brand and version number of mouse driver
- Joystick brand and model name
- Any error message you see in the game

Online Store:

If you enjoyed this product and would like to purchase other great MicroProse games online, stop by the Online Store on www.microprose.com for convenient shopping from home.