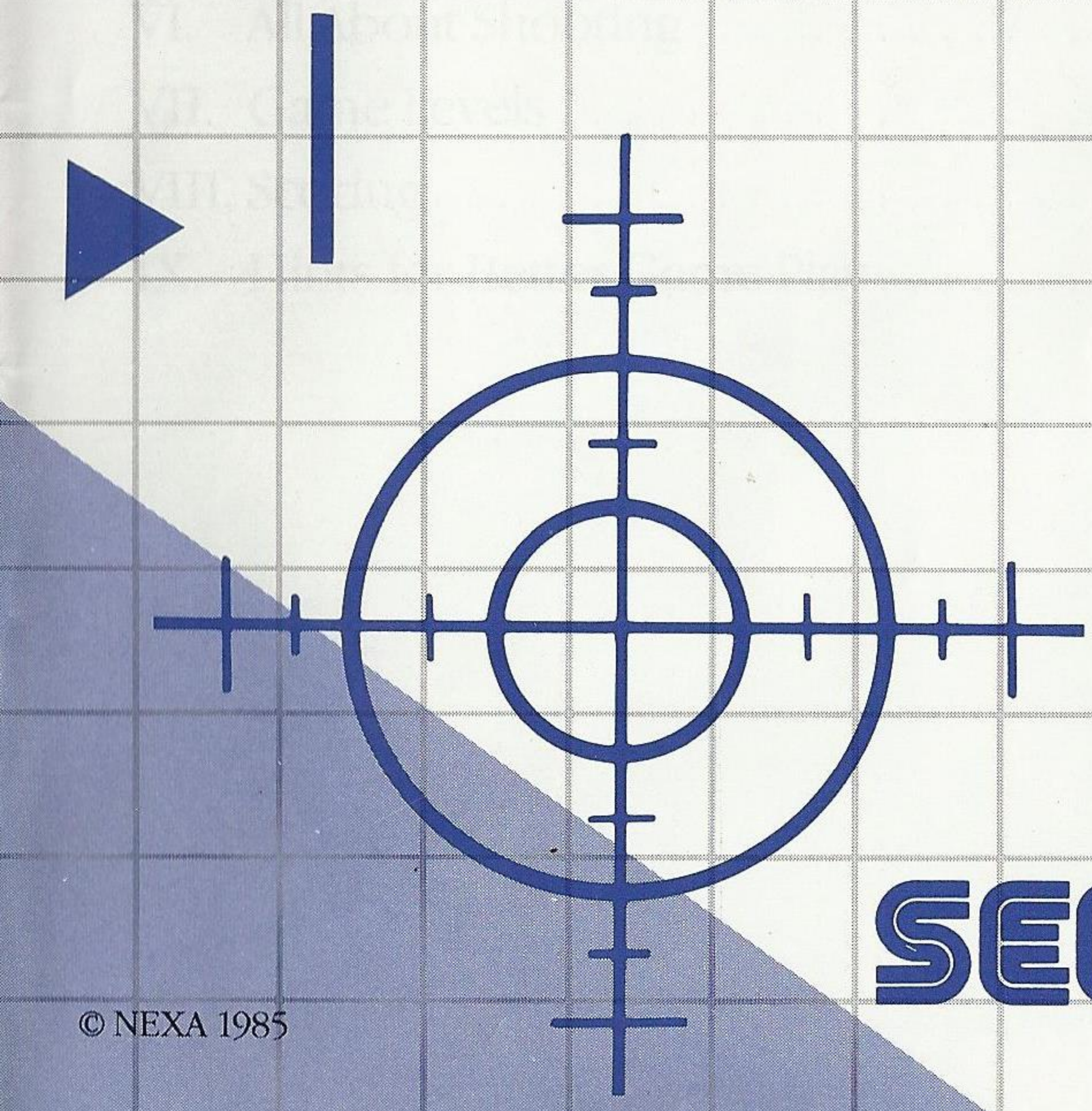
F-16 Fighting Falcon™

You are about to take control of the F-16 Fighting Falcon, the most advanced jet fighter in the world. In this carefully crafted simulation, your mission is to seek and destroy enemy aircraft and to remain airborne as long as possible.



SEGA®

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SECTION I

Getting Started

Inserting the Sega Card

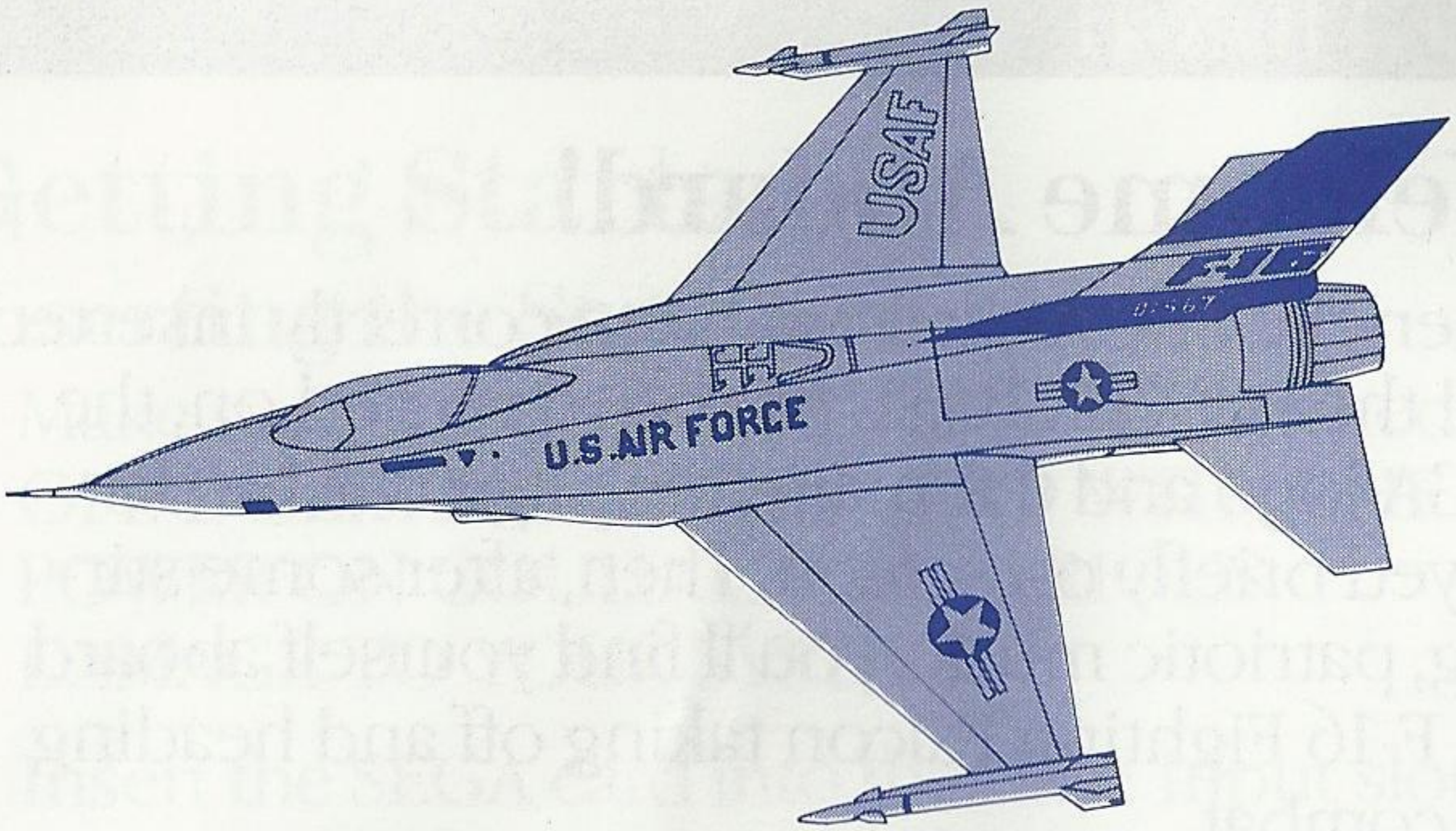
1. Make sure that the POWER BASE is switched OFF. INSERTING A SEGA CARD WITH THE POWER ON COULD CAUSE SERIOUS DAMAGE TO YOUR SYSTEM.
2. Insert the SEGA card into the Card Input slot on your SEGA system console.
3. Turn the power switch ON. If the screen remains blank, turn off the power and re-insert your SEGA card, making sure that you have pushed it firmly into the slot.
4. After use, be sure to switch power OFF before removing SEGA card.
5. When not in use, always store your SEGA card in its case.

SECTION II

Welcome Aboard!

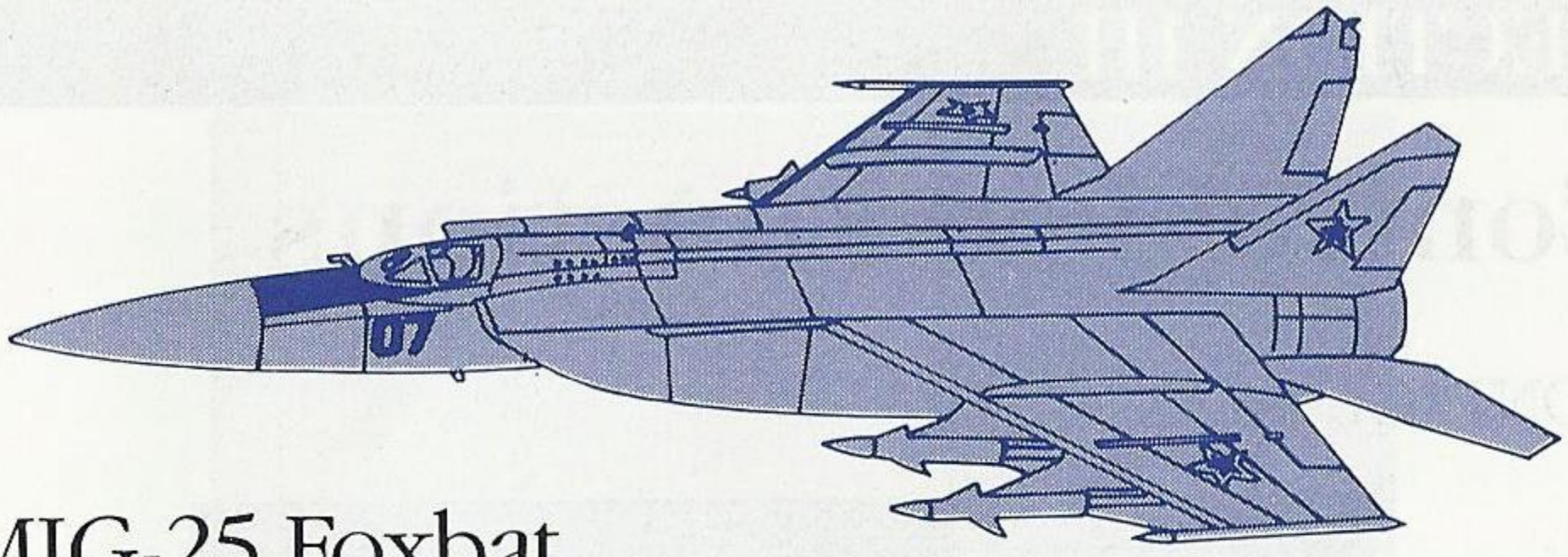
When the SEGA card has been correctly inserted and the POWER BASE has been turned on, the SEGA logo and the main title page will be displayed briefly on screen. Then, after some stirring, patriotic music, you'll find yourself aboard the F-16 Fighting Falcon taking off and heading for combat.





The F-16 Fighting Falcon

The F-16 Fighting Falcon is a high-performance jet fighter with a maximum air speed of 1,450 MPH. Cruising at a maximum altitude of 59,000 feet, the Fighting Falcon is armed with both missiles and 20mm machine guns. Additional F-16 features include a LOCK-ON function and an ECM device (electronic countermeasures) for use in defending against enemy missiles. These features will be fully explained later in the manual.



MIG-25 Foxbat

Your enemy is the MIG-25 Foxbat. Its performance is equivalent to that of the F-16.

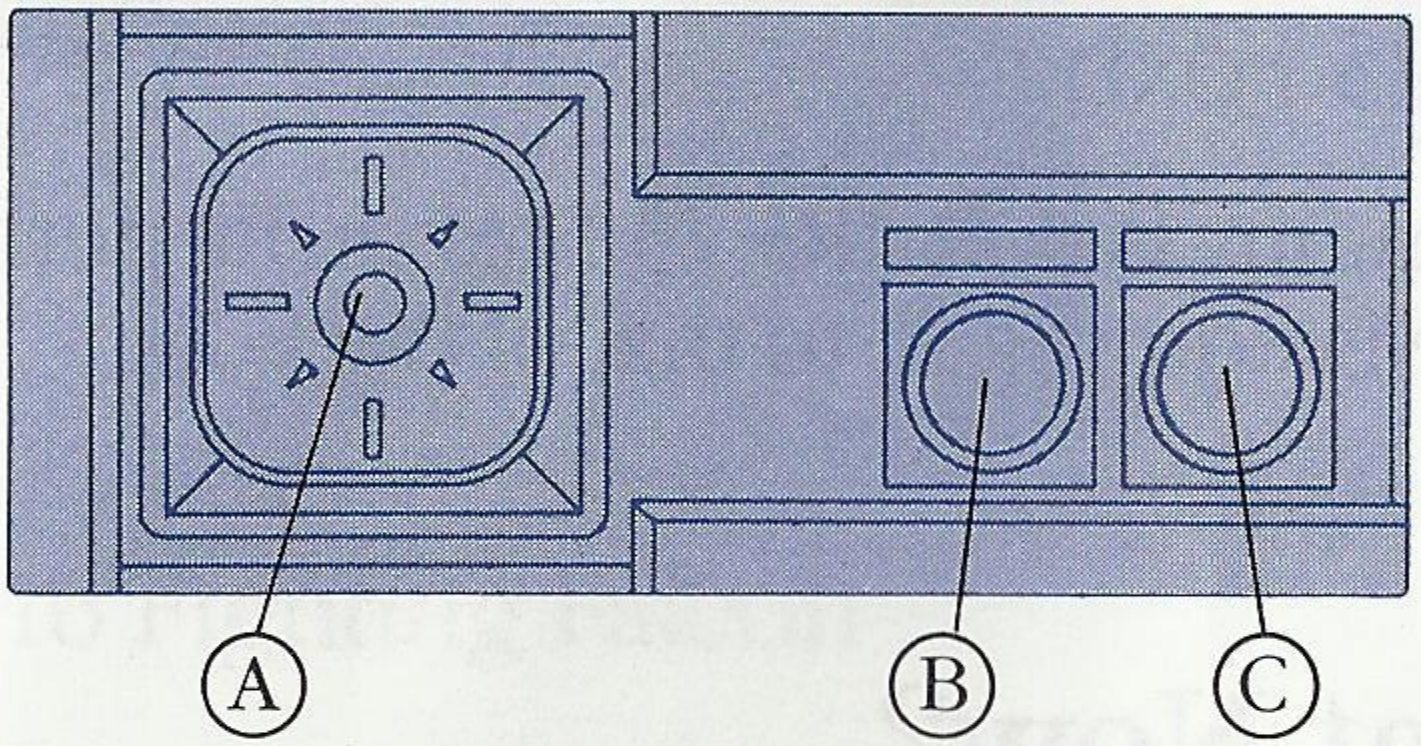
What Now?

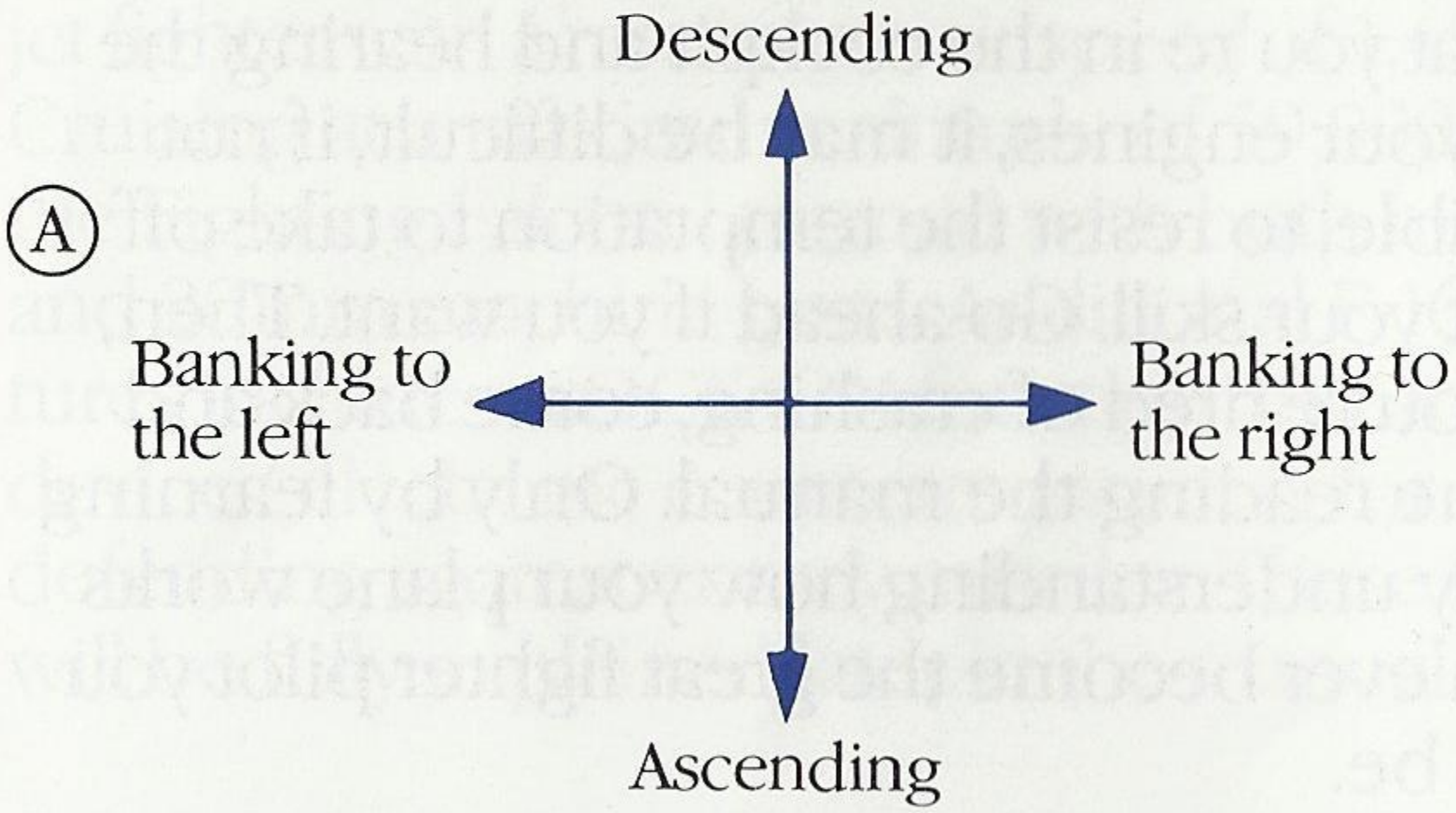
Now that you're in the cockpit and hearing the roar of your engines, it may be difficult, if not impossible, to resist the temptation to take off and test your skill. Go ahead if you want. Then, when you're tired of crashing, come back and continue reading the manual. Only by learning and fully understanding how your plane works will you ever become the great fighter pilot you want to be.

SECTION III

Control Pad Functions

CONTROL PAD 1

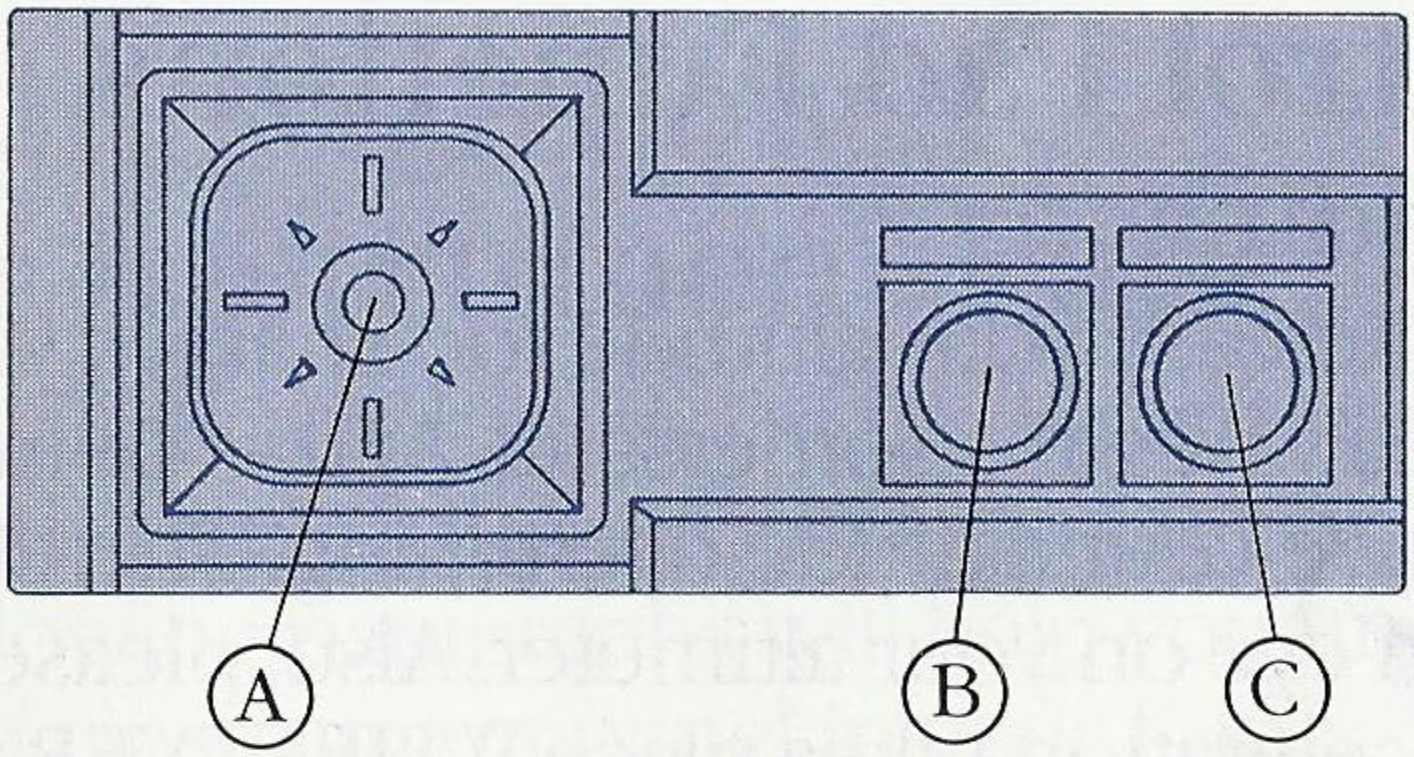


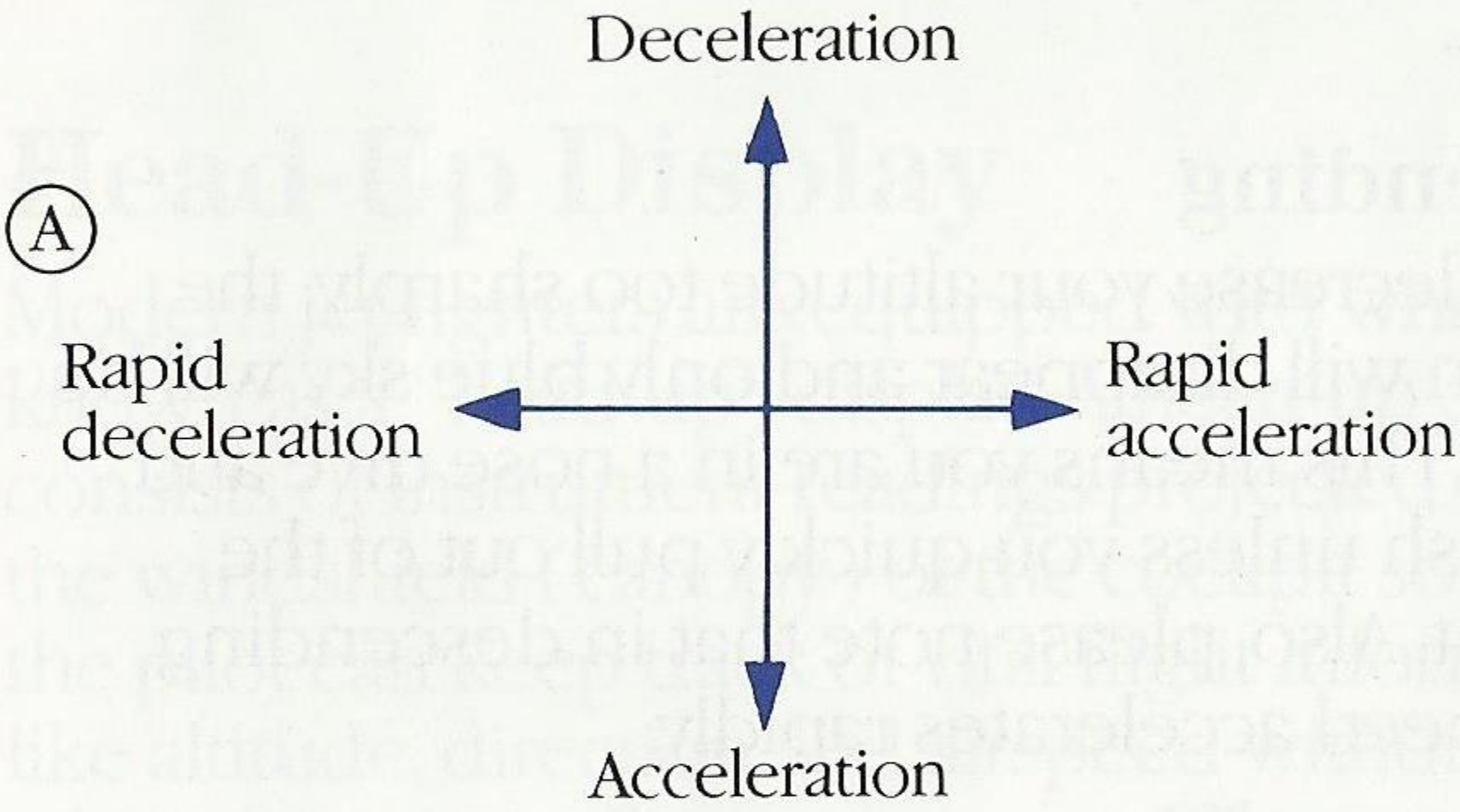


(B) Selection of arms

(C) Fire Button

CONTROL PAD 2





Ⓑ ECM (Electronic countermeasures)

Ⓒ LOCK-ON change

Ⓑ & Ⓒ To switch between AUTOPILOT and MANUAL OPERATION mode, simultaneously press "B" and "C."
Prior to crashing you will automatically be placed in the EJECT mode. At this time, simultaneously pressing "B" and "C" will activate the ejection.

NOTE: Button "A" on the Control Pads can also be activated using the screw-in mini-stick levers provided.

More About Control Pad Functions

Ascending

If you increase your altitude too sharply, you will eventually begin a somersault. At this point you will notice your altitude decreasing. Therefore, keep an eye on your altimeter. Also, please note that deceleration takes place WHENEVER you ascend.

Descending

If you decrease your altitude too sharply, the horizon will disappear and only blue sky will be visible. This means you are in a nose dive and will crash unless you quickly pull out of the descent. Also, please note that in descending, your speed accelerates rapidly.

Lock-On Change

Lock-On can be changed from one target to another when two or more aircraft are on the screen. Lock-On must be reset after the missile has exploded or your aircraft has been hit.

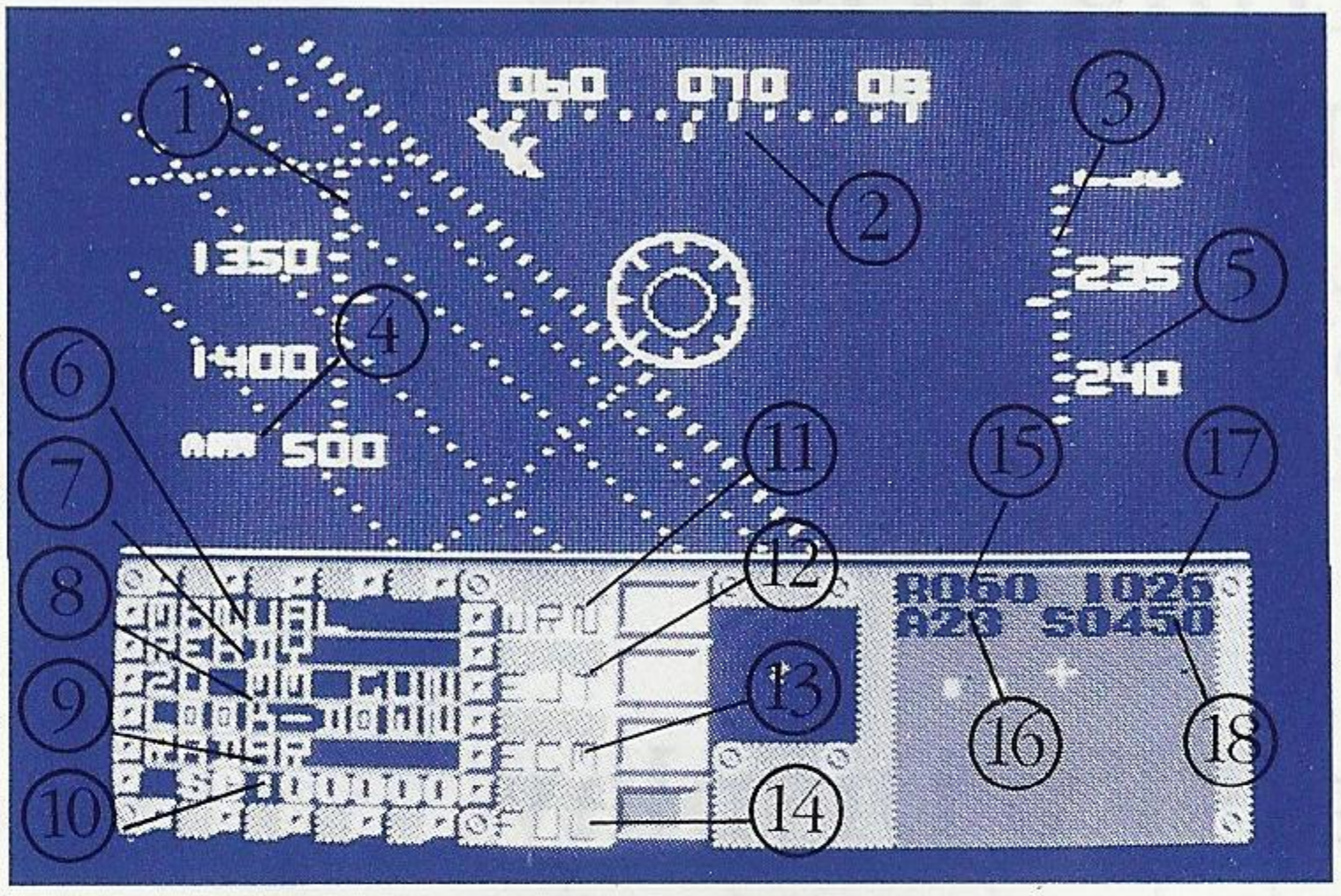
SECTION IV

Getting to Know Your Instrument Panel

Fighter pilots rely heavily on their instruments and on the life-saving information they provide. The following paragraphs will help you understand the instrument panel in your F-16.

Head-Up Display

Modern jet fighters are equipped with what is known as a "head-up" display. A head-up display consists of instrument readings projected on the windshield (canopy) of the cockpit so that the pilot can keep track of vital flight information like altitude, direction and airspeed without taking his eyes off enemy targets. What appears on your screen is a very accurate simulation of what a real fighter pilot might see. The upper half of the screen shows the head-up display and horizon as seen from the cockpit and the lower half shows the full instrument panel and the enemy data display.



HEAD-UP DISPLAY

① Airspeed Indicator

② Compass

③ Altimeter

④ Arm

⑤ Explosion Time

ENEMY DATA DISPLAY

⑮ R: Distance (Range)

⑯ A: Altitude

⑰ I: Intercept Angle

⑱ S: Speed

FULL INSTRUMENT PANEL

⑥ Pilot Mode

⑦ Fire Mode

⑧ Kind of Arms

⑨ Radar Mode

⑩ Score

⑪ Warning

⑫ Ejection

⑬ ECM

⑭ Fuel

While it is possible to achieve a margin of proficiency on the SEGA F-16 Fighting Falcon simply by repeatedly engaging the enemy, anyone who hopes to truly master the game should thoroughly understand the head-up display as well as the full instrument panel and enemy data display. Read the following descriptions of the various instruments and familiarize yourself with their functions.

Head-Up Display Instruments

1. AIRSPEED INDICATOR
   Indicates speed of aircraft in miles-per-hour up to 1,450 MPH in increments of 50 MPH. Figures shown at the center of this gauge indicate current air speed.

2. COMPASS
   Shows direction in which the aircraft is heading relative to Magnetic North.

   North . . . . . 0 degrees and 360 degrees
   East . . . . . 90 degrees
   South . . . . . 180 degrees
   West . . . . . 270 degrees

   Directions are indicated in increments of 10 degrees. Figures shown at the center of this gauge indicate current direction.

3. ALTIMETER
Altitude is shown in 100 foot units from 0 to 505 in increments of 500 feet. Figures shown at the center of this gauge indicate current altitude.

4. ARM
This instrument shows which armament is presently selected and the number of missiles or machine gun rounds remaining. Your weapon allocation depends on your level of play (see Section VII). The ARM display is located immediately below the AIRSPEED INDICATOR at the left of the screen (ex: ARM M2 means you have two missiles left. ARM 58 means you have 58 rounds left in your machine gun.)

5. EXPLOSION TIME
Explosion time refers to the number of GAME SECONDS (not real-time seconds) before launched missiles will explode. Game seconds decrease in increments of five and, once again, should not be confused with real-time seconds. Explosion time is shown at the right of your screen below the ALTIMETER. HINT: Check both the R (range) reading (see below) and the EXPLOSION TIME reading before launching your missiles.

Full Instrument Panel

6. PILOT MODE
   Indicates whether Autopilot or Manual operation has been selected. To switch between these two modes, simultaneously press buttons "B" and "C" on Control Pad 2.

   a. MANUAL OPERATION
      In this mode all operations are handled manually.

   b. AUTOPILOT OPERATION
      When the Autopilot is on, all operations EXCEPT afterburner and weapons functions are controlled by the computer. Autopilot is especially useful when you are just beginning your flight training. As you become more skilled you will do more and more of your flying under Manual control.

7. READY AND CHANGE
   The F-16 is equipped with two weapons: 20mm machine gun and missiles. To toggle between the two, press button "B" on Control Pad 1. When the weapon (ARM) selected is ready to use, the word "READY" will be displayed here. During the switch, the word "CHANGE" will be displayed and neither weapon will fire.

8. KIND OF ARMAMENT
   This instrument indicates which weapon is currently selected. It will read either MISSILES or 20mm GUN.

9. RADAR MODE
   LOOK UP RADAR indicates an enemy aircraft is above you. LOOK DOWN RADAR indicates an enemy aircraft is below you.

10. SCORE
    A score of 126 would be shown as follows:

    SC : 00126
    For details on scoring see page 33.

11. WRN
    This is a warning system which flashes a panel light and sounds an alarm when you have been fired upon by enemy missiles. The correct response is activating the ECM function (see below).

12. EJT
    The EJT (ejection) lamp lights up when you have been hit and there is no possibility of recovery. You are now in EJECT mode. Emergency ejection is possible at this time and will earn you extra points. To eject, simultaneously press buttons "B" and "C" on Control Pad 2.

13. ECM
    The ECM (electronic countermeasures) lamp lights up when you press button "B" to select the ECM option on Control Pad 2. ECM is an automatic evasion system which helps your aircraft to avoid enemy missiles. Remember, the ECM option is available to you only AFTER you have been fired upon.

14. FUL
    This is your fuel gauge. Keep a sharp eye on this instrument, especially when you're accelerating or using the afterburner, as these functions consume fuel rapidly. The fighter has a maximum flight of 13 minutes.

Enemy Data Display

15. R
    The R (range) reading gives you the distance to the enemy being pursued in units of 1/10 of a mile. HINT: the 20mm Machine Gun is ineffective beyond a reading of 15.

16. A
This reading shows the enemy's altitude in units of 1,000 feet.

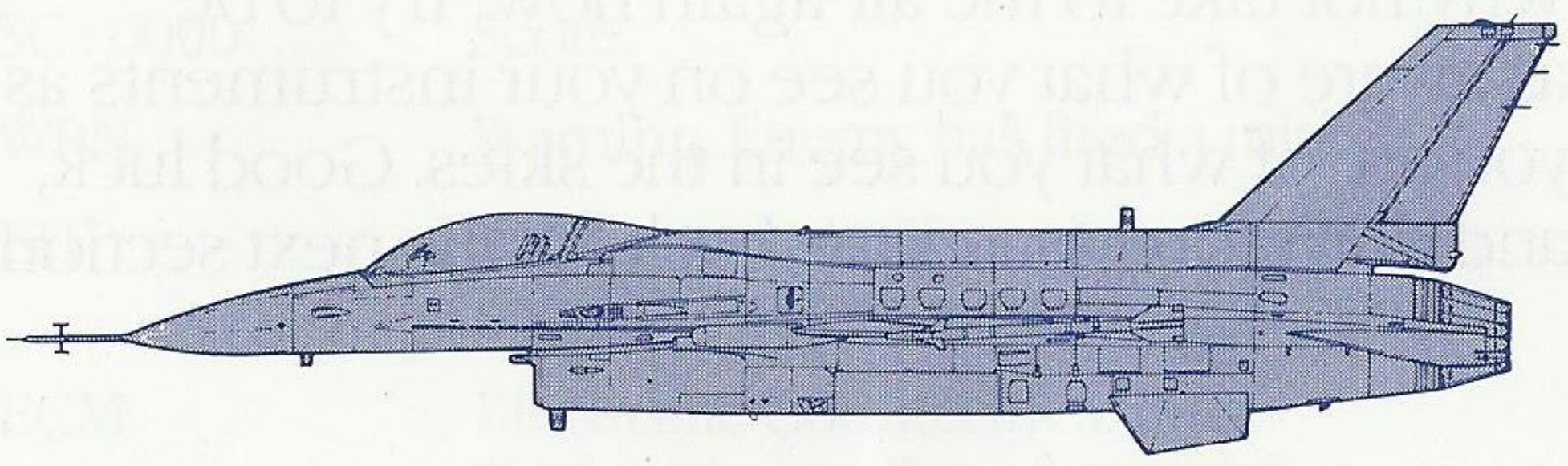
17. I
This indicates the compass angle at which you must fly in order to intercept the enemy. Use the I indicator reading in conjunction with the compass reading on your Head-Up display. For example, if your I indicator is reading 240, steer your aircraft so that your compass also reads 240.

18. S
This shows the enemy's speed in miles per hour.

19. HORIZONTAL RADAR SCREEN
Below the Enemy Data Display is a large green square. This is your horizontal radar screen. Your position is represented by the "+" symbol. The enemy aircraft is represented by the moving yellow square.

20. CIRCULAR RADAR SCREEN

To the left of the Horizontal Radar is a dark green circle on a black field. This is your Circular Radar Screen. It shows an overhead view of the situation. Even if the enemy is invisible on the horizon and on the Horizontal Radar, he could be directly overhead if he appears as a blue dot on the Circular Radar Screen. If you allow him to stay there you'll be attacked. To get out of this spot, bank your aircraft 90 degrees, then bank sharply and rapidly to the right and left.



Instrument Panel Wrap-Up

Right now you're probably wondering how the things you have learned in this section will help you in combat situations. At first the answer is: not much. But, as your hand and eye become accustomed to the fast action of the SEGA skies, you'll find yourself becoming cooler and cooler under fire. You'll begin to see how everything works. Before long, you'll be relying as much on quick thinking as on quick reflexes to get you out of tight spots.

Why not take to the air again now. Try to be as aware of what you see on your instruments as you are of what you see in the skies. Good luck, and don't forget to come back for the next section.

Summary of Instrumental Panel Readings

DISPLAY	FUNCTION
MANUAL	Aircraft is in manual operation mode.
AUTOPILOT	Aircraft is in autopilot mode.
READY	Selected weapons are ready to be fired.
CHANGE	Weapon selection in progress. Firing disabled.
MISSILE	Selected weapon = Missile.
20mm GUN	Selected weapon = 20mm Gun.
SC : 0000	Score.
WRN	Warning. Enemy has fired a missile.
EJT	Ejection mode. Your aircraft has been shot and cannot recover. Eject now.
ECM	Electronic Countermeasures. Automatic evasion of enemy fire.
FUL	Fuel gauge.

SECTION V

How to Fly the Unfriendly Skies

By this time you've already seen enough combat to realize that the title of this section is a little bit dumb.

"Aw, c'mon," you say. "There's no simple how-to-do-it solutions to games as complicated as this!"

You're right, of course. Flying the SEGA F-16 Fighting Falcon is a tough, challenging exercise and there are no easy answers. Besides, you wouldn't want it that way.

There is something to be learned, however, from going through a sample game and examining some of its key elements. Let's do that now and see what we can find out.

Sample Game

Phase One

You've got the SEGA card in place, the power is turned on and the title page for F-16 Fighting Falcon is on screen. "PUSH START BUTTON," it says, and so you do. You press button "B" or button "C" on Control Pad 1. The screen flashes to Level 1. On screen you see a black aircraft and a white aircraft.

ANALYSIS OF PHASE ONE EVENTS

1. Starting the game can be accomplished by pressing EITHER button "B" or button "C" on Control Pad 1.

2. The total number of aircraft that appear on screen during the Level 1 display indicates the total number of enemy planes that will be encountered at that level. The number of black planes indicates the number of aircraft that can appear simultaneously. Therefore, the Level 1 display indicates that you will encounter a total of two enemy planes, one plane at a time.

Phase Two

Suddenly the screen jumps to the play mode. You're airborne and there's an enemy plane inside a red circle just ahead. You quickly check the Head-Up Display and the Enemy Data Display to get a fix on what's happening. Here's what you see:

AIRSPEED 800
ARM M2
EXPLOSION TIME 245
RANGE 245
ENEMY AIRSPEED 828

Your aircraft is in MANUAL control and the CHANGE AND READY instrument reads READY.

ANALYSIS OF PHASE TWO

1. The red circle around the enemy plane means that your weapons system has LOCKED ON or, in other words, is tracking the enemy.
2. The weapon (ARM) currently selected is the MISSILE. M2 means that you have two missiles on board.
3. EXPLOSION TIME readings and RANGE readings are the same. Thus, chances for a successful missile launch are good.

4. The MANUAL control reading indicates that you are not in AUTOPILOT. Thus, all aircraft functions are under your control.
5. The READY light means that you may fire at will.

Phase Three...Quick Decisions

Even though your weapons system has LOCKED ON to the target, you decide to play it safe by switching from MANUAL to AUTOPILOT. You then fire your missile and anxiously watch it go. Bam! You've scored a victory...not to mention 40 points!

ANALYSIS OF PHASE THREE

1. You engage the AUTOPILOT by simultaneously pressing buttons "B" and "C" on Control Pad 2. This is a good move. The best way to solve any problem is to eliminate as many distractions as possible and focus on the important issues. AUTOPILOT does that very nicely by controlling all flight functions except the big one: firing the weapon.
2. The proof is in the pudding, as they say. You hit the target and scored impressively. Notice that the score now reads: SC 00040.

Phase Four

You scan the sky and then the instrument panel in search of the second enemy aircraft which you know is lurking somewhere in the heavens. Since you see no sign of aircraft either on the horizon or on any of your instruments you elect to remain in AUTOPILOT.

ANALYSIS OF PHASE FOUR

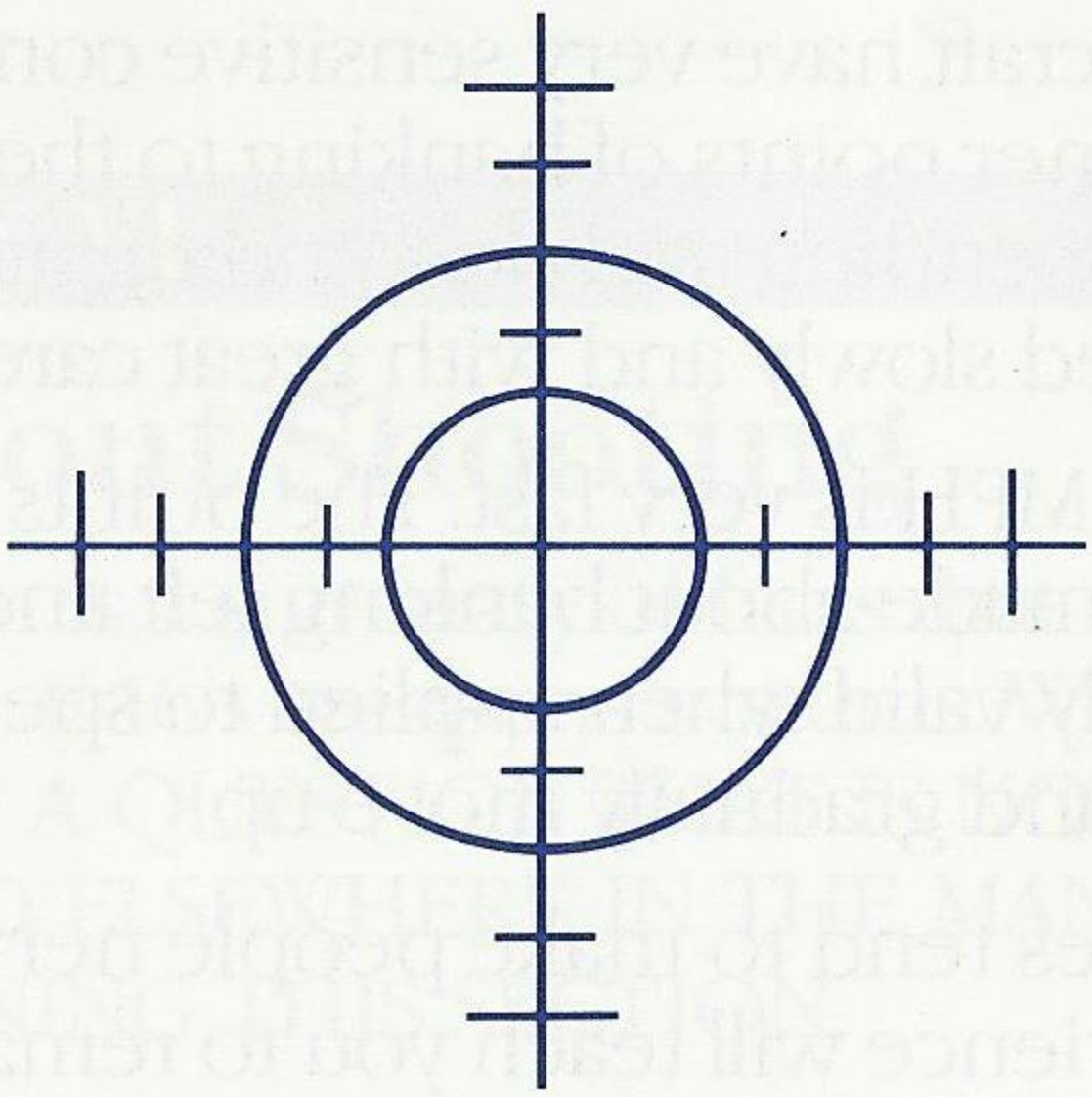
Once again, the AUTOPILOT option is a good one. Since the enemy is not immediately threatening you and is, for the moment, invisible, it makes sense to let the computer watch and scan for you. Your job is to take action when it finds something!

Phase Five...
The Computer Finds Something

Seconds after your first victory, the AUTOPILOT computer locates the remaining enemy aircraft in Level 1. A green circle appears around a tiny speck on the distant horizon. No information appears on the Enemy Data Display. Anxious to find out what gives, you disengage AUTOPILOT and hit the throttle...RAPID ACCELERATION!

ANALYSIS OF PHASE FIVE

1. The green circle is a pre-LOCK-ON indication that a target has been located, but is not yet within firing range.
2. The fact that no information has yet appeared on the Enemy Data Display means that the aircraft is out of radar range (beyond 60 miles).
3. Selecting MANUAL operation is accomplished in exactly the same way as selecting AUTO-PILOT...by simultaneously pressing buttons "B" and "C" on Control Pad 2.
4. RAPID ACCELERATION is accomplished by pressing the lower portion of button "A" on Control Pad 2.



Phase Six

Selecting MANUAL operation and RAPID ACCELERATION seemed like a swell idea at first, but now things don't look so hot. You lose sight of the enemy aircraft as your plane gyrates wildly. You finally regain control only to discover that the enemy has launched a missile and it's headed straight for you. In a desperate effort to avoid being hit you dive and swerve. Unfortunately, you swerve too little and dive too much. Not only are you hit by the missile but you forget to pull out of the dive. The top half of the screen goes red and you crash.

ANALYSIS OF PHASE SIX

1. Your loss of control during Phase Six was due to a combination of three factors:

   a. Jet aircraft have very sensitive controls. The finer points of banking to the right and left, ascending and descending are best learned slowly and with great care.

   b. 1,450 MPH is very fast. The points that were made about banking left and right are equally valid when applied to speed. Start slow and gradually move up.

   c. Missiles tend to make people nervous. Experience will teach you to remain calm.

Learn to overcome those three problem areas and you'll be on your way to the jet fighter pilot hall of fame.

2. Swerving and diving, heroic and daring though they may be, are often not as effective as simply selecting the ECM (electronic counter-measures) option when fired upon. This is done, you'll recall, by pressing button "B" on Control Pad 2.

Summing Up the Sample Game

We have just gone through a very simple and short game. You've probably been in tougher battles, but the overall lessons of each exercise remain the same: Stay calm and learn to use the instrument panel as fully as you can. This gets easier with practice.

SECTION VI

All About Shooting

This section is a summary of facts that will help you use the F-16's weapons systems. WHENEVER YOU HAVE A QUESTION THAT IS NOT ANSWERED ELSEWHERE IN THE MANUAL, TRY SCANNING THIS SECTION.

- One of three different gunsights can appear on screen:

  A green circle surrounds a faraway target as yet too distant to hit with your missile.

  A red circle surrounds a target that is within missile range. NOTE: The green and red circles will only appear when your selected weapons are missiles.

  A green circle surrounded by a white circle is your 20mm gunsight.

- Each enemy aircraft must be hit 9 times with the 20mm gun before it is destroyed.
- Your aircraft will be destroyed if it is hit 9 times by enemy machine gun fire.
- When firing a missile, allow it to explode before switching to the 20mm gun. Otherwise it won't hit the target.
- Missiles are shot from the right if the number of remaining missiles is an odd number; missiles are shot from the left if the number is even.
- Whenever the warning light signals, you have been fired upon. Press button "B" on Control Pad 2 to activate ECM. ECM will help your plane automatically evade enemy missiles.

- Enemy aircraft also have ECM. You can tell when the enemy is using ECM by the black outline which will appear around their plane. At that time, they will be very difficult to hit.
- Whenever you switch to Autopilot, the F-16 automatically starts to pursue the enemy. This happens whether or not the enemy is seen on screen.
- In Autopilot, Lock-On functions are automatically set.
- 20mm gunfire is ineffective beyond a R (range) reading of 15.
- Missiles cannot be selected within a R (range) reading of 32 or less. At this close distance, select the 20mm gun.
- In Autopilot, your weapons are automatically switched depending on your distance from the enemy.
- To hit the enemy plane with the missile, the target must be LOCKED ON (indicated by a red circle around the enemy).

- There are two different alarms to alert you to danger:

  A clanging noise means you've been hit by enemy gunfire. Remember, you can only be hit 9 times before you're destroyed.

  When the ENTIRE SCREEN turns red, the end is near. But you still have time to eject and score points.

- When the UPPER HALF OF THE SCREEN turns red, it's all over! No time to eject, either. Bye.

Missile Allocation

Your missile allocation depends on your selected game level:

Level 1	2 Missiles
Level 2	3 Missiles
Levels 3 to 7	4 Missiles
Levels 8 to 10	6 Missiles

At all levels, you are allocated 500 rounds of 20mm gun ammunition.

SECTION VII

Game Levels

When the game begins, the Level display screen appears. Notice that you are automatically brought to Level 1.

By pushing the top or bottom of button "A" on Control Pad 1, you may select any level of play you wish. When the selected level of play is displayed on screen, push the start button to begin.

At whatever level you choose to begin, you will automatically progress to the next level when the current level is completed.

The planes pictured on the Level display screen represent the total number of enemies you will encounter at that particular level. The black planes represent the number of aircraft that can simultaneously appear.

Game Level Information

LEVEL	TOTAL ENEMY PLANES	SIMULTANEOUS ENEMY PLANES	SCREEN COLOR
1.	2	1	BLUE
2.	2	2	BLUE
3.	3	2	BLUE
4.	4	2	BLUE
5.	5	2	BLACK
6.	3	3	BLUE
7.	4	3	GRAY
8.	6	3	BLUE
9.	7	3	BLUE
10.	8	3	BLUE

Special Levels

In Level 5 and in Level 7, you get a chance to fly your F-16 through some tricky skies.

Level 5 takes place at night. The darkness makes it difficult to see the path of the 20mm gun bullets. Now you must rely on the sound of the bullets hitting the target to determine the accuracy of your fire.

Level 7 takes place in the clouds. Your view is limited. Now you must follow close behind the enemy aircraft in order to see it more easily.

SECTION VIII

Scoring

Points are earned by hitting the enemy with gunfire or missiles. In addition, missiles and rounds of gunfire remaining at the end of each level also earn points. Finally, you can earn points by ejecting before your plane is destroyed.

20mm gun hits	7 points
Missile hits	40 points
Missiles remaining	10 points
20mm rounds remaining	1/10 point
Ejecting prior to destruction	16 points

SECTION IX

Hints for Better Game Play

- Become fluent at reading all instrument and data displays.
- Practice all flying maneuvers.
- Don't waste missiles or rounds of ammunition.
- Use the ECM to avoid enemy missiles.
- Use your radar screens!
- Watch your fuel supply.
- When in doubt, use Autopilot.

Scorebook

Name					
Date					
Score					

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Handling The Sega Card™ And The Mega Cartridge™

The SEGA CARD and the MEGA CARTRIDGE are intended exclusively for the SEGA SYSTEM.

— For Proper Usage —

Don't bend, get wet, disfigure or subject to thinners, benzine and violent impact.

Don't expose to direct sunlight or temperature source.

Be especially careful not to stick anything on the SEGA CARD.

When wet, completely dry before using.

When dirty, carefully wipe only with a soft cloth dipped in soapy water.

After use, put it in its CASE.

90-Day Limited Warranty
Sega® Card/Cartridge

To validate the following 90-day limited warranty, your warranty card and sales slip or proof of purchase should be completed and returned to Sega within 10 days after the date of purchase.

90-Day Limited Warranty

Sega of America, Inc. warrants to the original consumer purchaser that this Sega Card™/Cartridge™ shall be free from defects in material and workmanship for a period of 90 days from the date of purchase. If defect covered by this warranty occurs during this 90-day warranty period, Sega will repair or replace the defective card/cartridge, at its option, free of charge.

This warranty does not apply if the defects have been caused by negligence, accident, unreasonable use, modification, tampering or any other causes not related to defective materials or workmanship.

To receive fast, reliable service, call the Sega Customer Service Department at the following numbers:

Outside California: 800-USA-SEGA
Inside California: 415-742-9300

Our Customer Service Department is in operation from 9:00 AM to 5:00 PM (Pacific Time), Monday through Friday. *Do not return your Sega Card/Cartridge to your retail seller.*

Sega's service center is located at the following address:

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573 Forbes Blvd.
South San Francisco, CA 94080

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