
A-10
TANK KILLER
™
TACTICAL FIGHTER WING
105
Dynamix

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Dynamix

P R E S E N T S

A-10 TANK KILLER

Contents

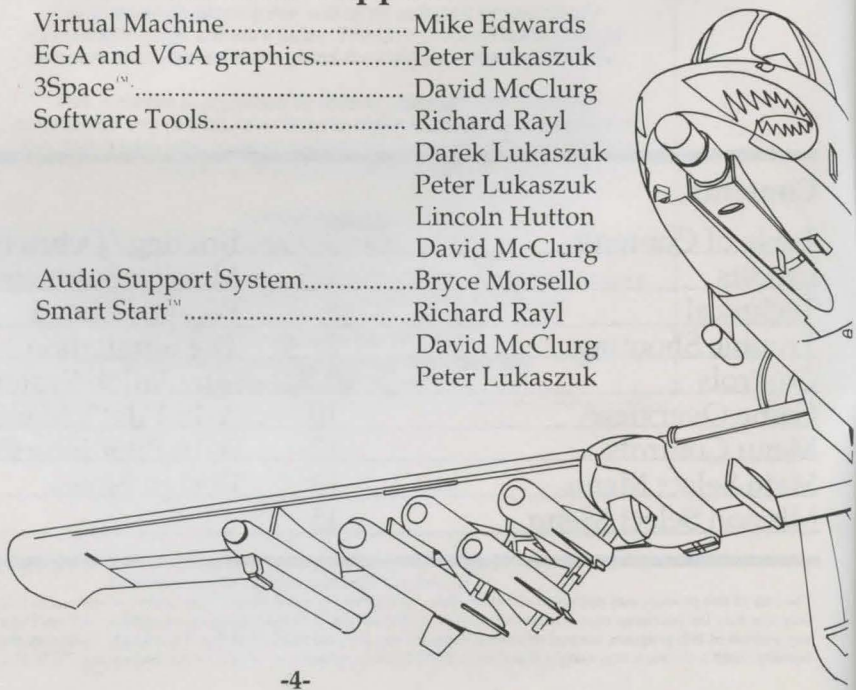
Credits

A-10 Tank Killer

Director	Damon Slye
Programming	Lincoln Hutton
With	David McClurg
Art Director	Kobi Miller
3D Art and Animation	Mark Brenneman
	Cyrus Kanga
Dir. of Image Production	Randy Dersham
Casting/Costuming	Sher Alltucker
Mission Design	David Selle
	Damon Slye
Sound Effects and Musical Editing	Bryce Morsello
Musical Score	Alan McKean
Design	Damon Slye
	Jerry Luttrell
Executive Producer	Jeff Tunnell

Technical Support

Virtual Machine	Mike Edwards
EGA and VGA graphics	Peter Lukaszuk
3Space™	David McClurg
Software Tools	Richard Rayl
	Darek Lukaszuk
	Peter Lukaszuk
	Lincoln Hutton
	David McClurg
Audio Support System	Bryce Morsello
Smart Start™	Richard Rayl
	David McClurg
	Peter Lukaszuk



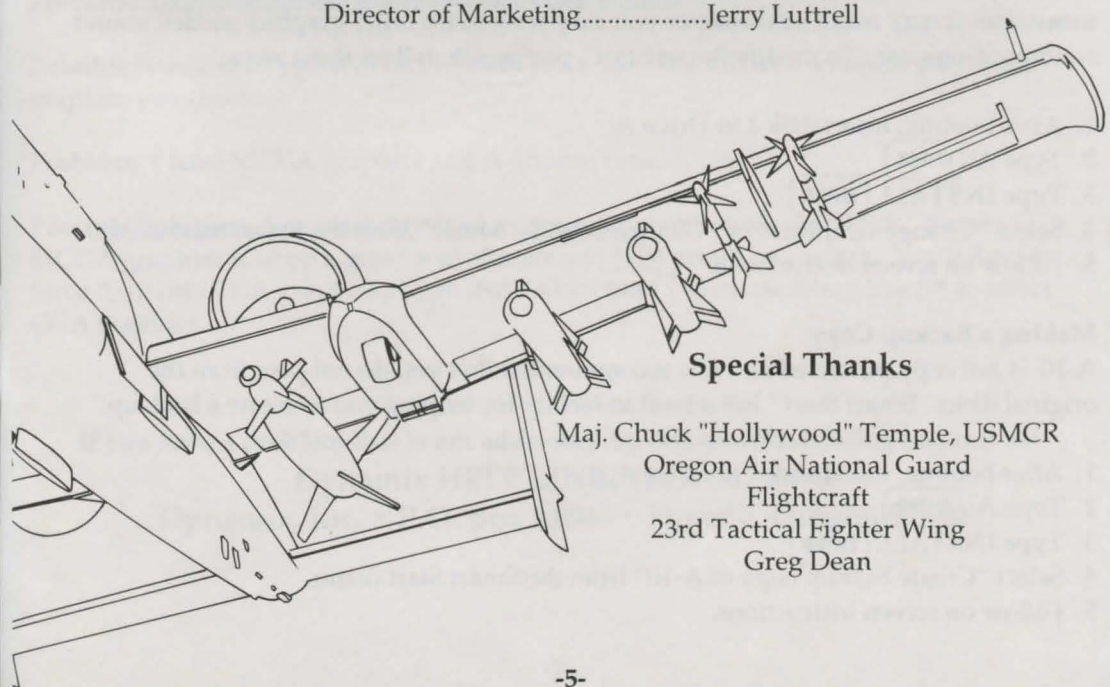
Credits

Cast

Rich Scheeland	as	Commander Cord
Dave Shew	as	Captain Buck Ryan
Brian Hahn	as	Lieutenant Jake Styles

Additional Support

Hardware Support.....Marc Von Ahn
Administrative Support.....Tony Reyneke
Karen Peal
Playtesters.....Mick Westrick
Dan Hinds
Package Illustration.....Roger Smith
Package Design.....Jerry Luttrell
Kobi Miller
Documentation.....Jerry Luttrell
David Selle
Damon Slye
Director of Marketing.....Jerry Luttrell



Special Thanks

Maj. Chuck "Hollywood" Temple, USMCR
Oregon Air National Guard
Flightcraft
23rd Tactical Fighter Wing
Greg Dean

Technical

Smart Start™

At Dynamix™, we were tired of being asked what kind of graphics and clock speed our computer system had every time we wanted to play a game. So, we invented Smart Start™. As opposed to the "dumbstart" system used by most games, Smart Start™ will automatically determine the graphics, sound, input devices and speed capabilities of your computer system and optimize game characteristics. Smart Start™ will also take you step-by-step through the process of installing your game on a hard drive and making back-up copies. Don't be intimidated, just jump in and try it!

Copying A-10: Tank Killer to a Hard Drive

1. After booting, insert disk 1 in Drive A:
2. Type **A:** (ENTER)
3. Type **INSTALL** (ENTER)
4. Select "Copy A10 to Hard Drive" from Smart Start menu.
5. Follow on screen instructions.

Setting Preferences

Smart Start™ will do its best deciding what type of computer equipment you have, but sometimes it may make a mistake or you may wish to try other graphics modes, sound configurations, etc. To modify Smart Start™ preference, follow these steps:

1. After booting, insert disk 1 in Drive A:
2. Type **A:** (ENTER)
3. Type **INSTALL** (ENTER)
4. Select "Change Graphics" or "Change Sounds/Music" from the Smart Start menu.
5. Follow on screen instructions.

Making a Backup Copy

A-10 is not copy protected and it is recommended that you do not play from the original disks. Smart Start™ has a built in facility for helping you to create a back up.

1. After booting, insert disk 1 in Drive A:
2. Type **A:** (ENTER)
3. Type **INSTALL** (ENTER)
4. Select "Create backup copy of A-10" from the Smart Start menu.
5. Follow on screen instructions.

Trouble Shooting

Problem: My computer has at least 512K of memory, but A-10 won't run.

Possible Solution: Your computer may be running a "pop up" (TSR) program, such as Sidekick or it may be connected to a device such as a LAN that uses a portion of the memory.

Problem: The joystick is not working properly.

Possible Solution: Press **ALT C** to center the joystick.

Problem: When playing from the keyboard strange things happen such as the cursor moving all around the screen.

Possible Solution: Press **ALT J** to turn off the joystick.

Problem: Constantly playing music bugs me, but I still want to hear sound effects.

Possible Solution: Press **ALT M** to turn off music.

Problem: Graphics appear in a mode that I don't want.

Possible Solution: Type **INSTALL** [ENTER] then use Smart Start™ to select the type of graphics you desire.

Problem: I have MCGA graphics and A-10 won't run.

Possible Solution: You probably have a computer system with only 512K. Because MCGA graphics take up a great deal of memory, 512K won't be enough. You'll have to force A-10 into CGA graphics. Type **INSTALL** [ENTER] then use Smart Start™ to select CGA graphics.

If you have a problem that is not addressed by this troubleshooting list, call us!

Dynamix HELP LINE: (503) 687-8690

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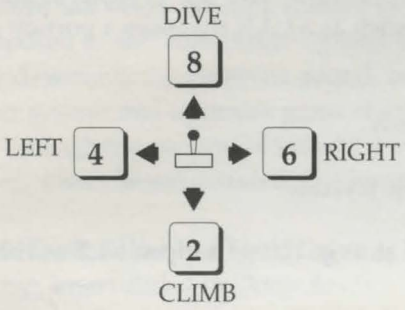
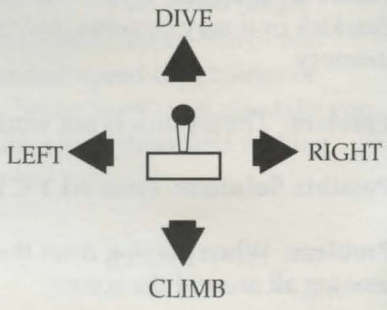
CONTROLS

FLIGHT CONTROL

KEYBOARD



JOYSTICK



FIRE BUTTONS

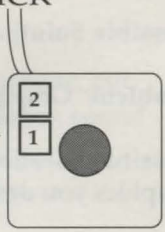
KEYBOARD

Avenger Cannon = SPACE BAR

Selected Weapon = ENTER

JOYSTICK

Button #2 = Selected Weapon
Button #1 = Avenger Cannon



A-10 Views

Cockpit Views
(Function Keys)

F1	Look Forward
F2	Look Left
F3	Look Right

Outside Views
(Function Keys)

F4	Front View
F5	Left Side View
F6	Right Side View
F7	Rear View
F8	Weapon Attack View
F9	Engagement View
F10	Reverse Angle Engagement View

CONTROLS

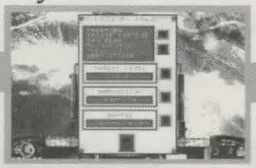
ACTIVE KEYBOARD KEYS

		MENU SCREENS
SPACE BAR	Fire Avenger 30mm cannon	Choose current menu selection
ENTER	Fire Selected weapon	
TAB	Toggles next target for HUD and TID	Next menu selection
ESC	Brings up Control Panel, pauses game	Skips Briefing
P	Pause Game	
M	Displays Strategic Map	
Q	Brings up Quit Menu	
+	**Select next active weapon**	
-	**Select previous active weapon**	
H	**Select Maverick**	
J	**Select LGB**	
K	**Select Rockeye**	
L	**Select Durandal**	
;	**Select Sidewinder**	
<	Left Rudder	
>	Right Rudder	
Numeric 1-9	Throttle: 1 = no throttle, 9= full throttle.	
F	Release Flare	
C	Release Chaff	
R	IN MAP SCREEN: On/Off switch for SAM range on Strategic Map	
S	IN SIMULATION: Brings up Status Screen.	
D	Display Message log.	

Game Overview

Welcome to A-10 Tank Killer. To make learning the game as quick and easy as possible, the following overview is offered. It is a quick guide to the menuing system and game play. An in depth description follows this introduction which provides a detailed description of each screen.

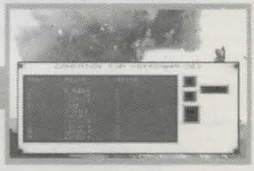
Fly One Mission



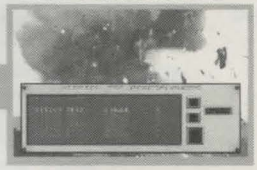
Start Campaign

Continue Campaign

Best Campaigns

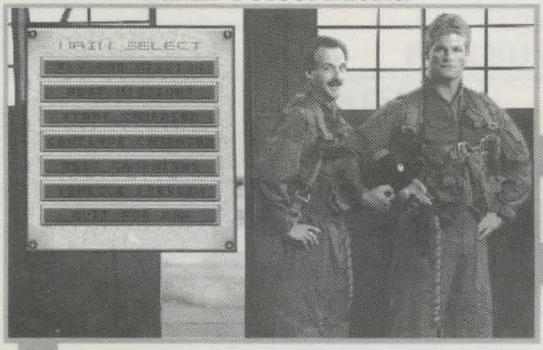


Best Missions



Vehicle Preview

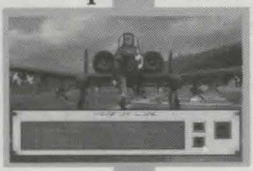
Main Select Menu



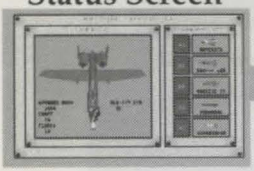
Quit

Briefing

Weapons Load



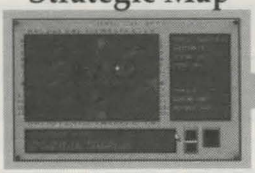
Status Screen



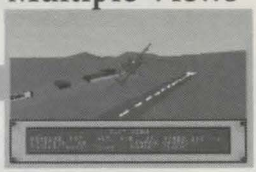
VCR Interface™

Simulation

Strategic Map



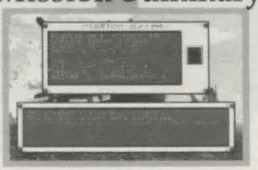
Multiple Views



Quitting

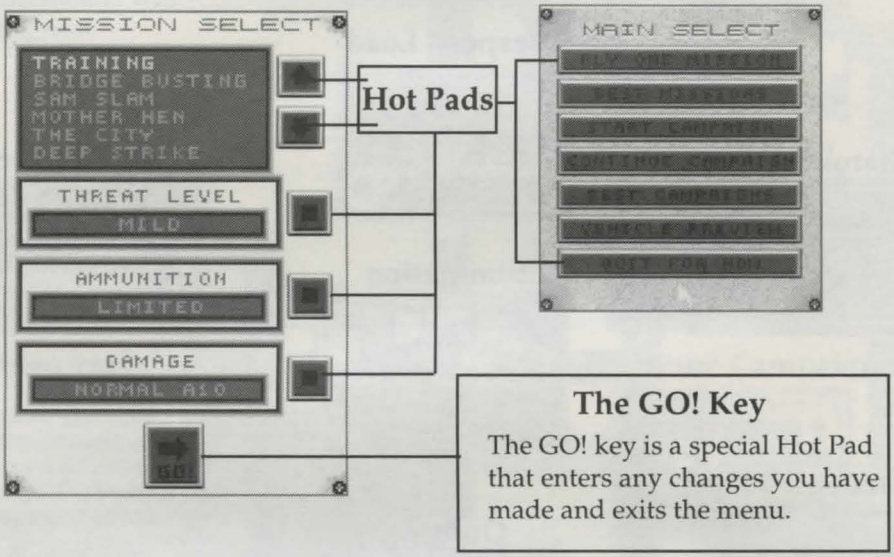
Debriefing

Mission Summary



Menu Controls

The menuing system for A-10 Tank Killer was designed to be intuitive and easy-to-use for both novice and advanced users. Following are a few simple tips and instructions that explain basic menu use.



Mouse , Joystick or Keyboard Control

The on screen arrow can be moved by mouse, joystick or keyboard.

Mouse

Select **Hot Pad**: Move mouse to position arrow on **Hot Pad** and press either mouse button to select.

Joystick

Select **Hot Pad**: Move joystick to position arrow on **Hot Pad** and press either joystick button to select.

Keyboard

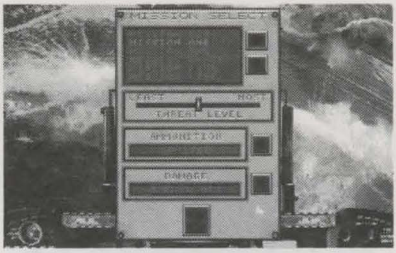
Select **Hot Pad**: Press the "**TAB**" key to move the arrow from one **Hot Pad** to another. Press the "**Space Bar**" to select.

Main Select Menu

The first menu screen is Main Select. It is the starting point from which you enter the game.

Mission or Campaign?

Among the seven menu choices in **Main Select Menu** are **Fly One Mission** and **Start Campaign**. These are the two modes of game play that A-10 Tank Killer offers.



Fly One Mission allows you to individually select which mission to fly. Each mission will include a Briefing/Debriefing, Weapons Select and Mission Summary. When a mission is completed or exited, you will be returned to the **Main Select Menu**.

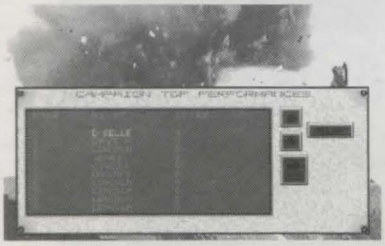
Start Campaign enters you into a preset "tour of duty." You will start at mission #1 and continue until you have either completed all of the missions, are shot down or lose the war. A key element of Campaign Mode is that goals, objectives and key players are carried over from one mission to the next. In Campaign Mode, if you do poorly in the first mission, it may come back to haunt you. Also important in Campaign Mode is that Campaigns can be saved for later continuation. When beginning a campaign, you will enter a character name. The campaign will be saved under this name and can later be viewed or continued.

Also available from the Main Select Menu

Continue Campaign

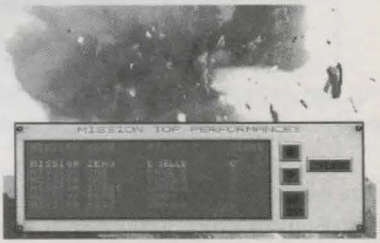
Gives you the option of continuing a saved campaign.

Best Campaign



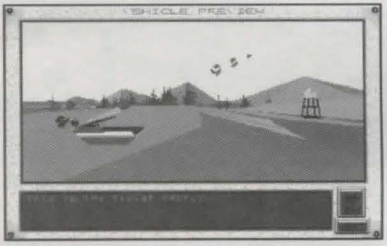
Allows you to view the best performances of all Campaign Mode players.

Best Mission



Displays a "Hall of Fame" for best performances on a single mission.

Vehicle Preview

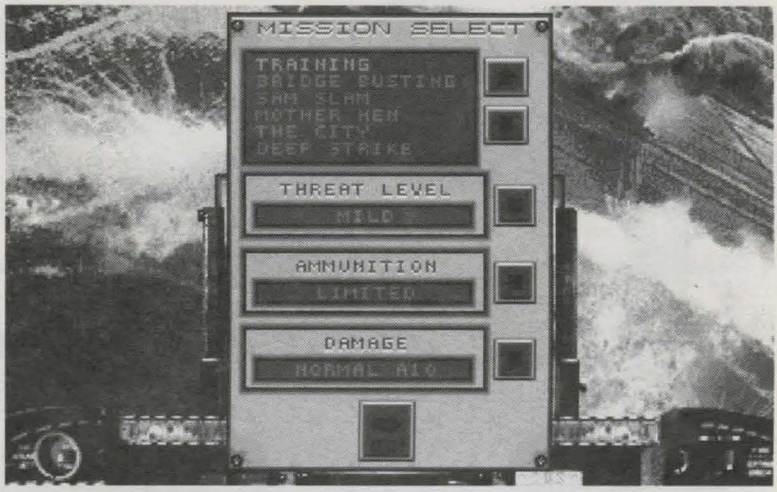


Allows you to preview the weapons and vehicles used by both friendly and enemy forces.

Quit

Quits the game and exits to DOS.

Mission Select Menu



Under the **Mission Select Menu**, you will be able to select a single mission and tailor its difficulty level and game play parameters. These include:

Threat Level

You can individually tailor the degree of difficulty in each mission.
Mild = Wimp Mode
Moderate= Pretty Mean Suckers
Aggressive = Major Bad News

Ammunition

You may select a "limited" or "unlimited" ammunition supply.

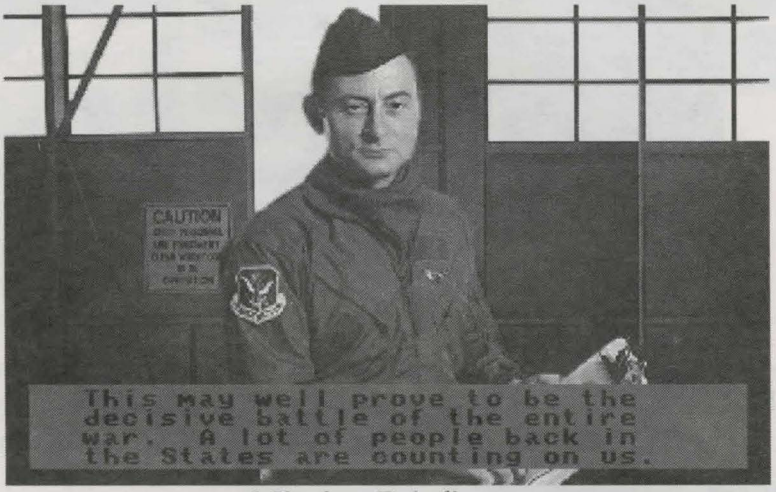
Damage

You may select a "normal" or " invincible" A10.
A setting of "normal" means that your A-10 can be damaged.
A setting of "invincible" means that your A-10 can not be damaged.

NOTE:
Scores achieved with selection of either "unlimited" ammunition or "invincible" damage WILL NOT be recorded into the hall of fame.

Briefing/ Debriefing

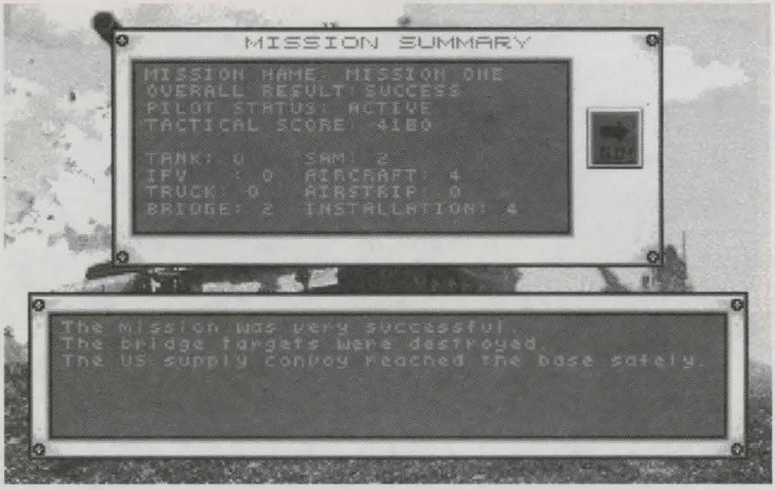
Meet Commander Cord, your commanding officer. He's full of advice, wisdom and orders. You will meet with him before and after each mission. In the Briefing, he will instruct you as to the current situation and give you your orders. Of course, once airborne, you and your co-pilot are free to do as you wish. BUT, assuming you make it back alive, you'll have to answer to Cord in Debriefing.



Mission Briefing

Mission Debriefing

Mission Summary



Mission Summary

After each mission Debriefing, you will receive a Mission Summary. Mission summaries contain all data on your latest performance. You will be given the overall result of the mission and your tactical score (a point system based upon number and type of kills).

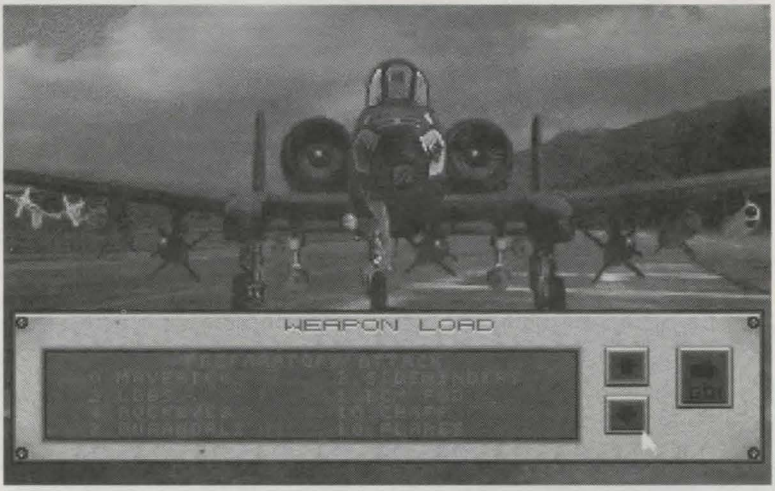
Campaign Summary

In Campaign Mode, you will receive both a Mission Summary and a Campaign Summary. The Campaign Summary contains a cumulative tactical score (compiled from all missions played). Following the Campaign Summary screen will be the Campaign Decision screen. This will be the point at which you can decide to **Receive Next Assignment** or **Return To Main Select Menu**. Choosing **Receive Next Assignment** will place you into the next mission of the campaign. Choosing **Return To Main Select Menu** will save your place in the current campaign and return you to the **Main Select Menu**. Once saved, a campaign can be restarted at any time from the Continue Campaign section of the **Main Select Menu**.

Campaign Summary

Campaign Decision

Weapons Load



The final screen you will encounter before entering the simulation will be Weapons Load. You will be presented with a choice of 5 preset weapon loads, one of which will be designated as the **Recommended** selection. The recommended load is based upon the specific goals of each mission and will, for the most part, prove most effective. However, as you play each mission and develop your own strategy, you may find that selections other than those recommended are more useful.
(See Weapon Systems: Page 30)

Select the proper weapon type to use against the target.

Against Tanks: **Select Avenger 30mm cannon, or select a MAVerick.**

Against Other Vehicles: **Select Avenger, MAVerick, or ROCkeye cluster bomb (especially if there are several vehicles close together).**

Against Bridges, Bunkers, Buildings, or Installations: **Select LGB.**

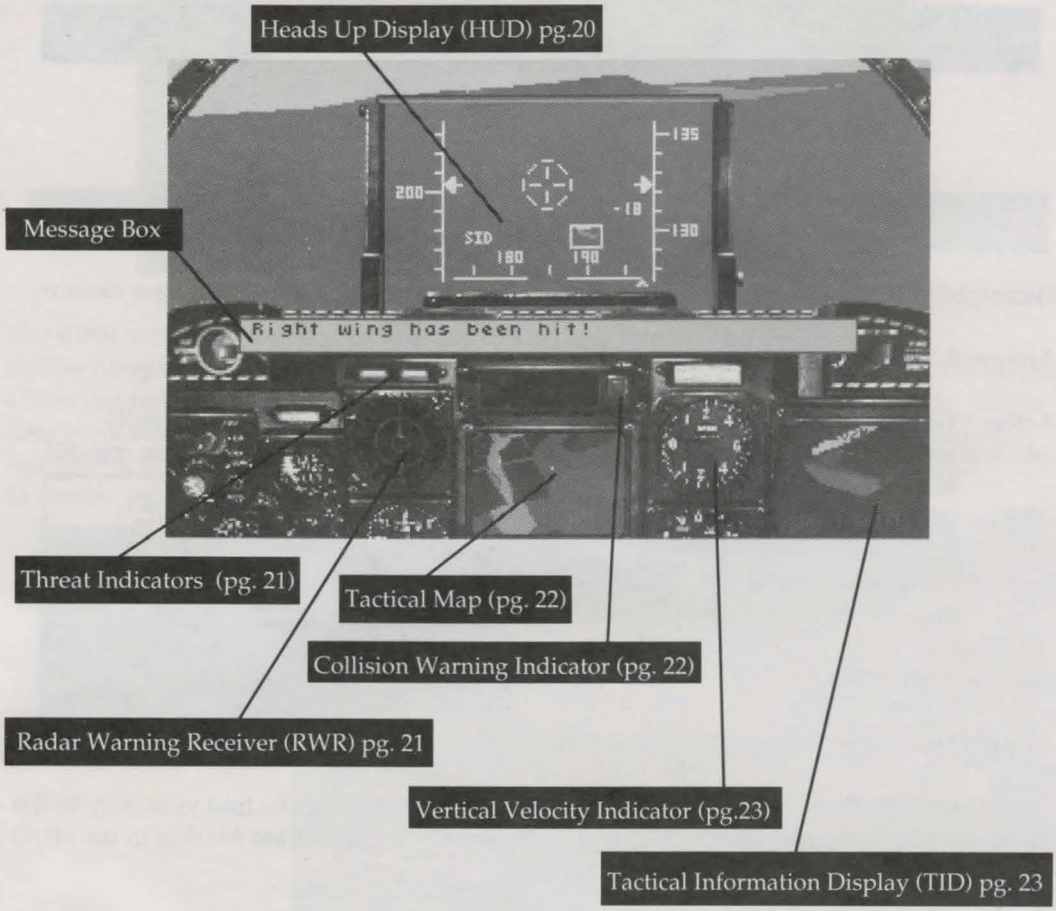
Against Airstrips: **Select DURandal.**

Against Aircraft: **Select SIDewinder.**

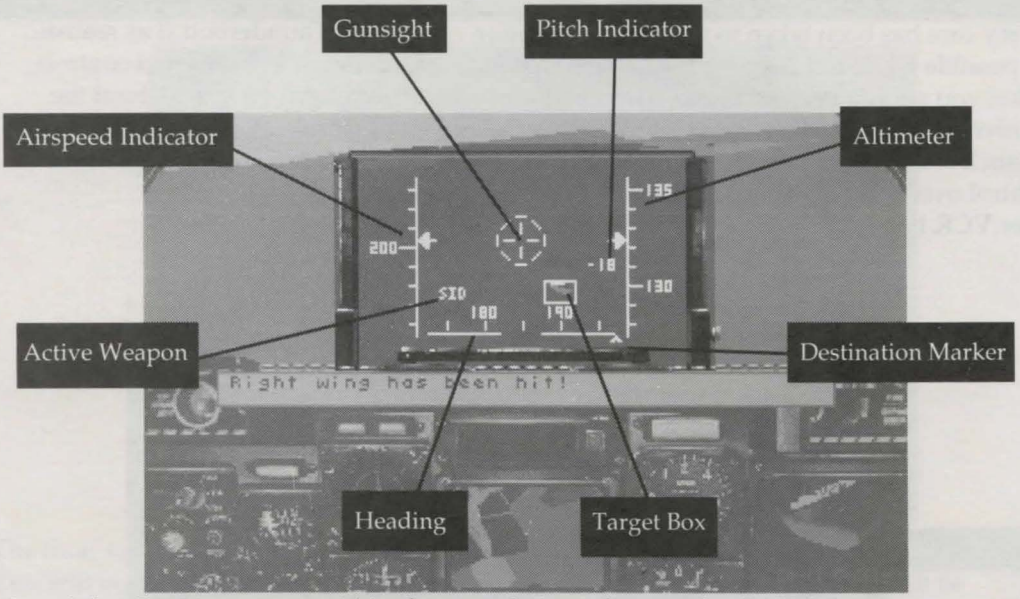
The Simulation

Every care has been taken to make the simulation of the A-10 Thunderbolt II as realistic as possible while not bogging the game down with unnecessarily complicated controls. What you get is a very accurate representation of the *feeling* of A-10 flight without the burden of intricate flight knowledge. Flying the A-10 is as simple as grabbing the joystick and throttling up. And, with the VCR Interface™, you are given complete control over 3-D definition, window size and mission difficulty levels.
(See:VCR Interface™: Page 27).

Cockpit Instruments



Heads Up Display (HUD)



Gunsight: Position target within the cross-hairs to line up the GAU-8 Avenger cannon.

Airspeed Indicator: Displays airspeed in knots.

Active Weapon: The active weapon display on the HUD indicates the currently selected weapon: (For Information on Active Weapons **See: Weapon Systems: pg. 30**)

MAV = AGM-65 Maverick
LGB = Paveway LGB
ROC = Rockeye II CBU
DUR = Durandal
SID = AIM 9L Sidewinder

NOTE: FOR HEADING
NORTH is at 0^0 **EAST** is at 90^0
SOUTH is at 180^0 **WEST** is at 270^0

Heading: Shows the A-10s current heading in degrees.

Target Box: Indicates current target for the Tactical Information Display (TID).

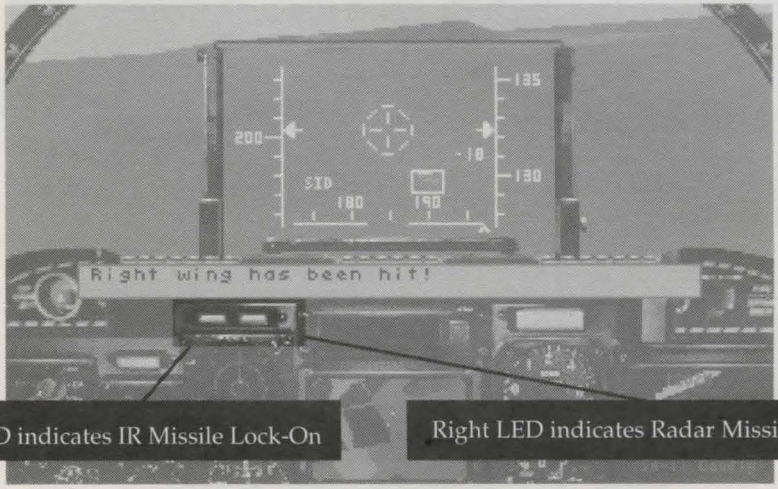
Destination Marker: Indicated direction to current destination. To find your way to the currently selected target on the Strategic Map, center the Destination Marker in the HUD and keep it there. (**See Strategic Map: pg. 24**)

Altimeter: Displays current altitude in feet.

Pitch Indicator: Indicates the A-10s pitch in degrees.

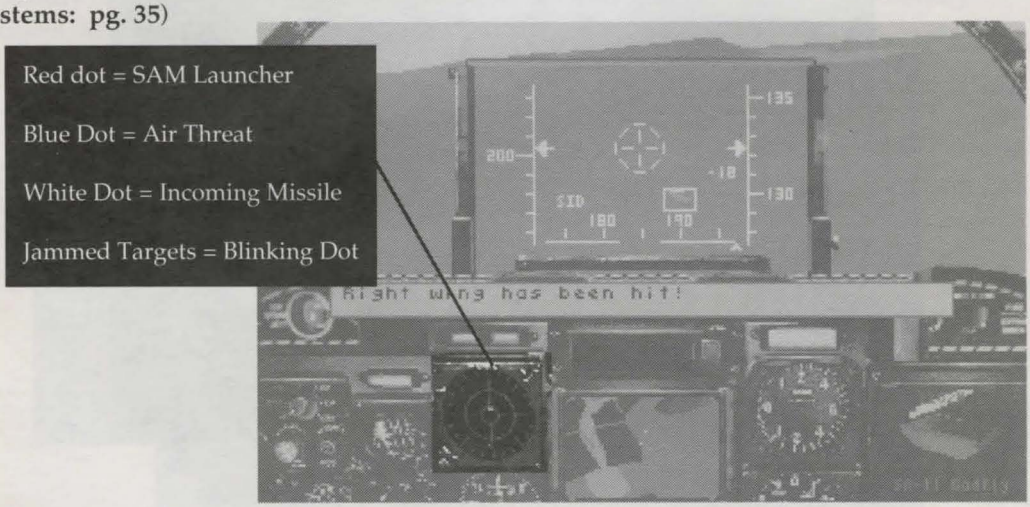
Threat Indicators

This pair of LEDs mounted above the Radar Warning Receiver (RWR) warns the A-10 pilot when an infra-red (IR) or radar guided SAM has locked onto his aircraft. The left LED indicates an IR Missile has locked onto the A-10. The right LED indicates a radar missile threat.(**See Defensive Weapons Systems: pg. 35**)



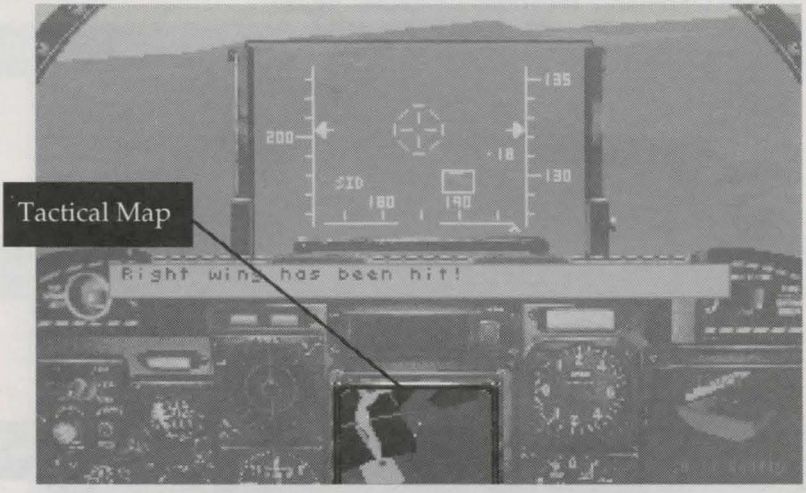
Radar Warning Receiver (RWR):

The RWR senses Surface-to-Air missiles (SAM) and aircraft and displays a dot representing each of these threats on the RWR console. A red dot indicates a SAM threat, a blue dot represents an air threat, and a white dot indicates an incoming missile. These dots blink when you have successfully jammed a target with the Automatic Jamming equipment that is standard on your A-10 Thunderbolt II.(**See Defensive Weapons Systems: pg. 35**)



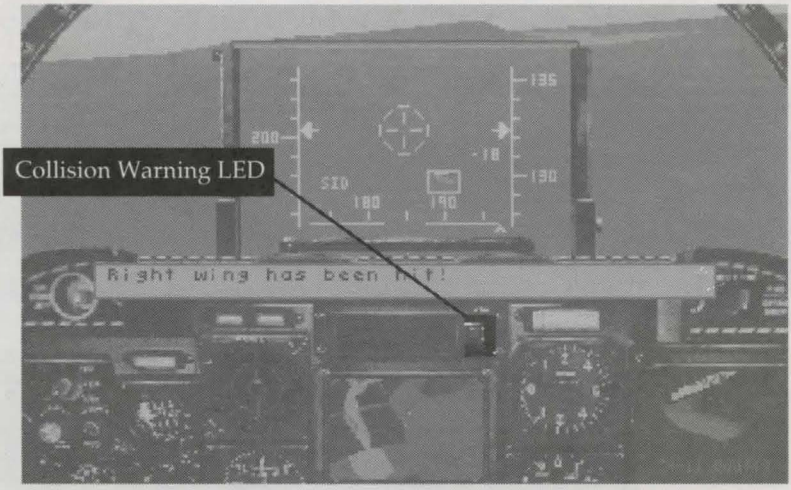
Tactical Map

The tactical map displays all terrain in a 40km X 30 km area around the A-10. The A-10s current grid position is displayed at the bottom center of the tactical map.



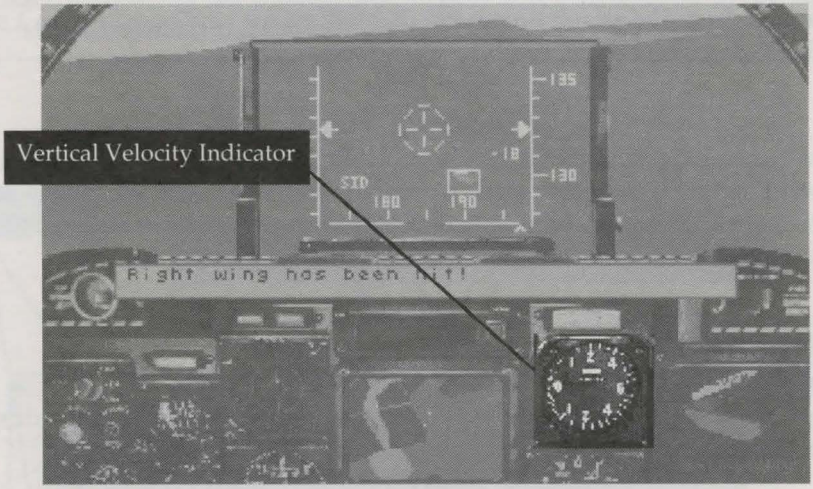
Collision Warning Indicator

This LED warns the pilot of an imminent crash with the ground.



Vertical Velocity Indicator

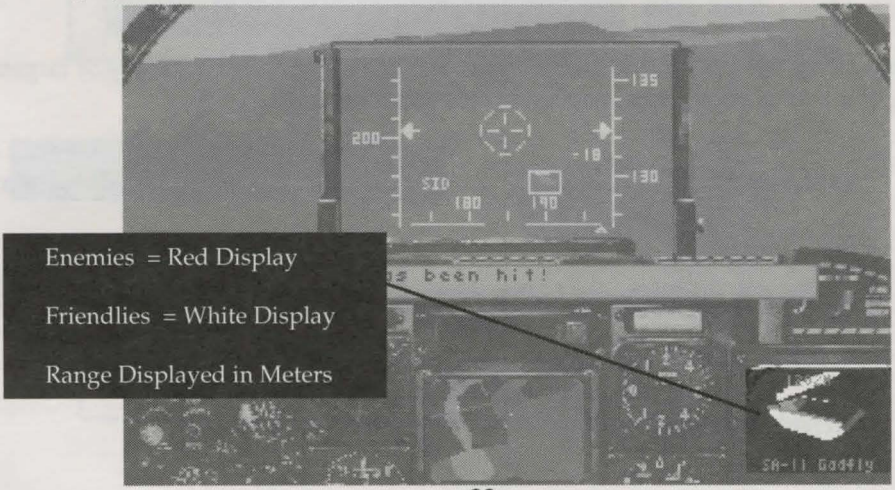
The Vertical Velocity Indicator gauge displays how quickly the A-10 is gaining or losing altitude. It points directly to the left in level flight.



Tactical Information Display (TID)

IMPORTANT!
Always check the TID before firing!
Wasting friendlies isn't usually considered a good thing.

The TID displays the current target that the Weapons System is locked onto. If a weapon is fired, it will engage the displayed target. The TID provides target range, target identification and IFF (Identify Friendly or Foe) information with hostile targets displayed in Red text and friendly targets displayed in White text. (**See Vehicle Descriptions: pg. 32**)



Simulation Systems

Along with the main cockpit and its instruments, there are several screens and menus that are available from the simulation mode that will prove very beneficial to a successful mission. **(See Game Overview: pg. 10)**

Strategic Map

Pressing "M" during the simulàtion brings up the strategic map. This is the main source of information on the flow of the battle during the course of each mission. Each target shown on the map can be selected by toggling the current target box until it is placed over the desired target. Toggling of the target box can be done in two ways:

1) By clicking the arrows in the lower right of the screen.
2) By clicking on the desired target with the on-screen cursor.

Once a target is selected, the Strategic Map will provide a description of the designated target. This description includes:

-Target Type
-Target Location (in Grid Coordinates)
-Target Heading
-Target's Estimated Speed
-Target's Bearing relative to the A-10s current position
-Target's Distance relative to the A-10s current postion
-Intelligence Reports (if any) on the target

All Enemy Targets are displayed in Red while Friendly Units are shown in Blue.

Strategic Map Icons

The Strategic Map uses several different types of icons to represent a variety of targets. Following is a listing of all icons used and their meaning.


SAM (surface-to-air missile)


Ground Unit, truck patrol, convoy


Installation (Base, Bridge, Building)

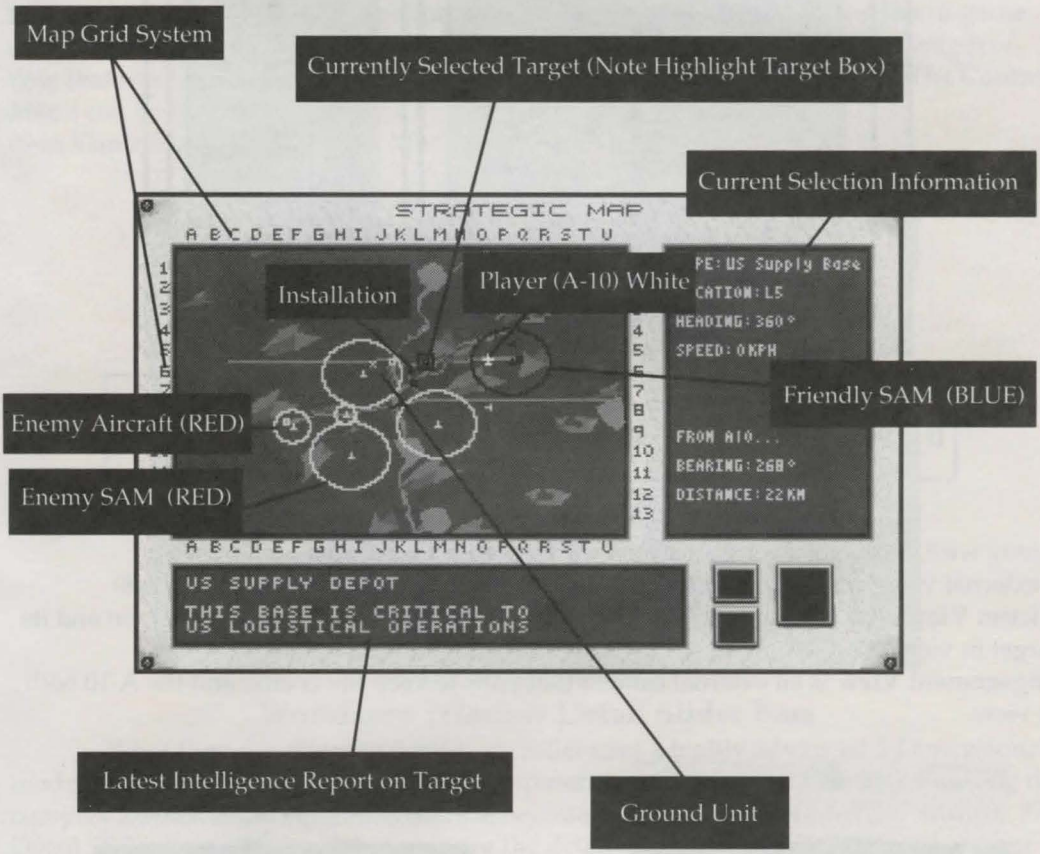

Player (A-10)


Aircraft (Helicopter or Plane)


Truck Convoy

IMPORTANT:

The currently selected target becomes a directional guide for the Destination Marker on the HUD. Following the Destination Marker will lead directly to the last target selected on the Strategic Map. (See Destination Marker: pg. 20)

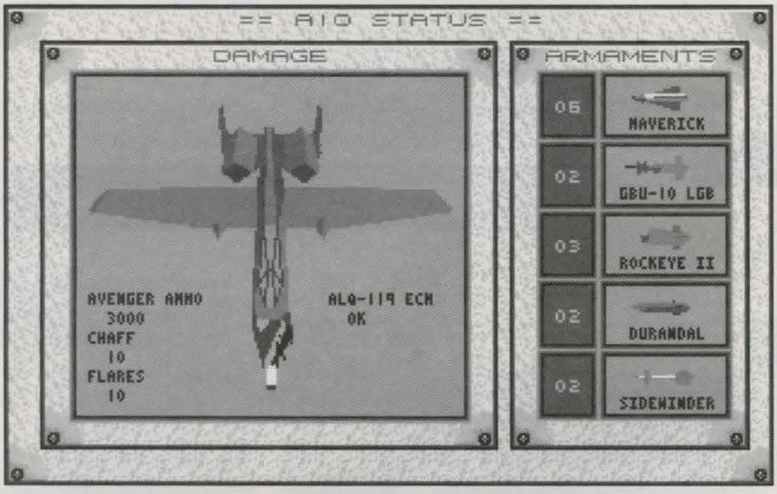


NOTE:

Pressing "R" in the Strategic Map toggles the display of the SAM ranges on and off. (See Controls: pg. 9)

Status Screen

"S" brings up the A-10 Status Screen. This screen graphically displays the amount of damage sustained by the A-10 and shows its remaining armaments, gun ammunition, chaff and flare salvos. (For reference **See: Weapons Systems: pg. 30**)



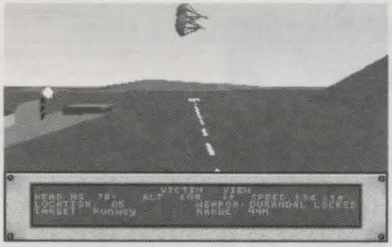
IMPORTANT
If the A-10 loses a wing, all the weapons on the wing are lost with it.

Multiple Views

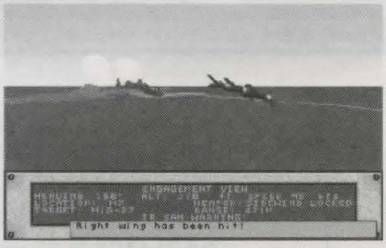
Along with 3 internal cockpit views, A-10 Tank Killer is capable of displaying 7 external views, including Victim and Engagement Views. (**See Controls: pg.8**)

Victim View is an external camera that moves to constantly keep a fired weapon and its target in view.

Engagement View is an external camera that pans to keep the enemy and the A-10 both in view.



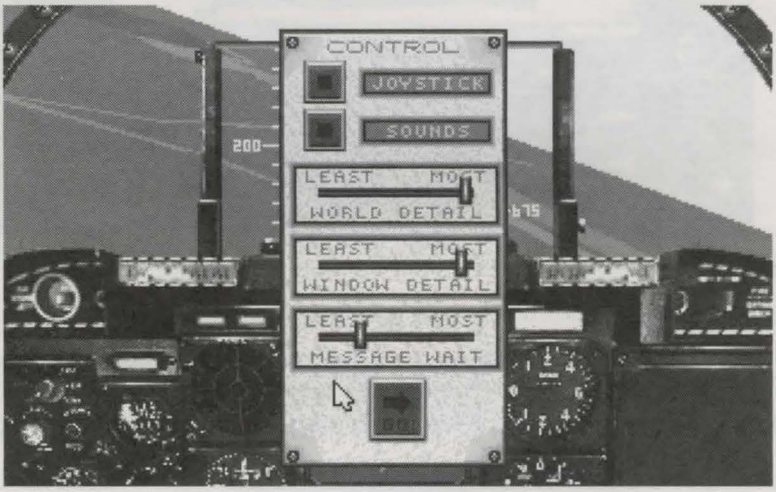
Two Durandals drop toward an enemy airbase as seen from Victim View



The A-10 takes damage from two Migs as seen from Engagement View

VCR Interface™

In a constant effort to make our games more enjoyable and less frustrating, we have developed a new type of game control called the VCR Interface™. In essence, the VCR Interface™ is a menu that is accessible at any time during simulation play which allows you to control vital elements of game play. The interface will have different appearances in different games but the function will always be the same: to give the user as much control as possible over game functions and flow. In A-10 Tank Killer, the VCR Interface™ is seen in several places. The interface is accessible while in the **Mission Select Menu** and in the **Control Menu** (see below). In the **Mission Select Menu** it allows you to customize the difficulty of each mission. In the **Control Menu**, it gives you in-game control over the detail of the 3-D world, the size of the viewing window, the length of time that messages are displayed on screen and basics such as game sound. The **Control Menu** can be accessed at any time by simply pressing the "**ESC**" key.
(See: Controls: pg.9. See Also: Menu Controls: pg.12)



World and Window Detail Slider Bars

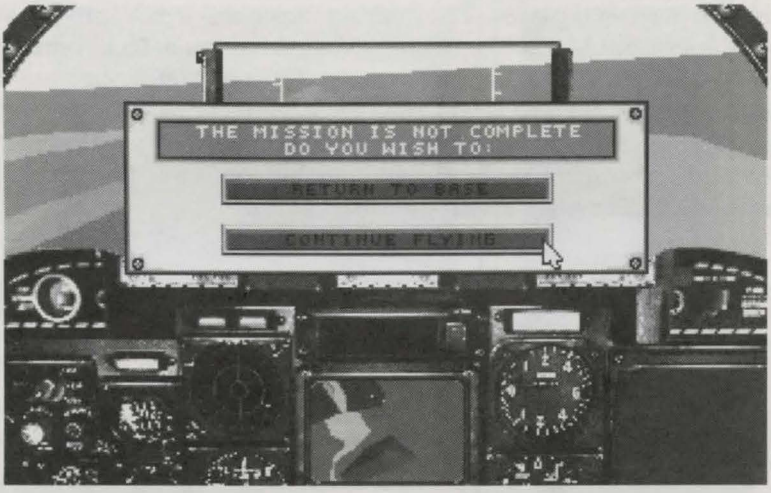
What they do: Because A-10 Tank Killer uses a highly advanced 3-Dimensional modeling system called 3Space™, older computers may have some difficulty handling the complex mathematical equations that are necessary to drive the detailed 3-D worlds. The Detail Slider Bars allow you to customize the detail of the game to fit the speed of your computer. By using the Slider Bars, you can "adjust" the amount of detail in the cockpit or in the 3-D world. **(See: Controls: pg.8. See Also: Menu Controls: pg.12)**

NOTE

Whenever any of the Simulation System screens are called up, the game is paused.

The Quit Menu

At any time during game play, if the "Q" key is pressed the **Quit Menu** will appear. This menu presents you with two options: **Return To Base** or **Continue Flying.** Selecting **Return To Base** will place you directly into your Mission Debriefing. Selecting **Continue Flying** will re-enter the simulation.



IMPORTANT

There are two ways to quit the simulation: with the battle Complete or Incomplete. Quitting an Incomplete mission will leave any remaining Allied troops open to attack. If this happens your Mission Evaluation may suffer. (See Summary: pg. 17)

A-10 Pilot's Manual

A-10 Warthog Specifications:

Manufacturer: Fairchild Republic Co.

Primary Mission: Sustained close air support

Powerplant: Two General Electric TF34-GE-100 turbofan engines, each developing approximately 9,000 lbs (4,082 kg) of thrust.

Length: 53 feet, 4 inches (16.25m)

Height: 14 feet, 8 inches (4.47m)

Wingspan: 57 feet, 6 inches (17.53m)

Internal Fuel Capacity: 10,700 lbs (4,853 kg)

Operating Weight: 25,000 lbs (11,340 kg)

Max Gross Weight: 50,000 lbs (22,680 kg)

Ammunition Capacity: 5,000 rounds: Mixed HE and depleted Uranium

Armament: One 30 mm. General Electric GAU-8 Avenger seven barrel cannon.

Firing rate: 2100/4200 rounds per minute

Ordnance capacity: Up to 16,000 lbs (7,257 kg) of mixed ordnance on ten underwing pylon stations with partial fuel.

Ferry Range: 2,173 nautical miles (4,026 km)

Combat Radius w/ typical weapon load: 250 nm

Max Speed (clean): 450 kt.

Combat Speed w/ typical weapon load: 380 kt.

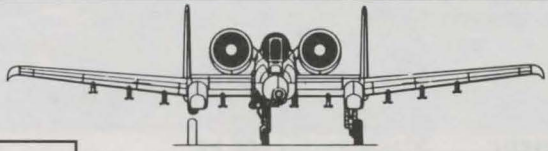
OVERVIEW OF THE A-10 AND ITS ROLE

The A-10 is a Close Air Support attack aircraft. It assists ground troops by eliminating threats suchs as hostile tanks, tank destroyers, and other armor. Its extensive weapon load enables it to take out larger targets such as bridges, airstrips, and buildings.

In Viet Nam it was found that an aircraft must be able to survive several SAM hits. The A-10 is built with redundant structural parts so that it can take a lot of damage. In fact, an A-10 can fly with one engine and half a wing blown off! The engines are placed high on the aircraft to protect them from missiles. The bath tub of armor around the cockpit can withstand 20mm rounds.

The most striking feature of the A-10 is its 30mm cannon, the Avenger. It fires shells the size of milk bottles at a rate of 4200/minute! The shells can rip through the armor of any tank in service. The A-10 hits very hard indeed.

WEAPONS SYSTEMS



Avenger 30mm Cannon: Effective against: **TANKS, VEHICLES**

The GAU-8 "Avenger" is the largest and most powerful gun ever mounted on an aircraft. It can fire 2.5 lb depleted uranium shells at a rate of 4,200 rounds/ minute into a target 4,000 feet away with 80% accuracy. The energy of these rounds fired is enough to rip through the armor of any Main Battle Tank currently in service.

Anything that moves on the battlefield can be annihilated by the firepower of this awesome weapon.

Maverick: MAV Effective against: **TANKS, VEHICLES**

The Hughes Aircraft AGM-65D IIR (Imaging InfraRed) Maverick is a fire and forget air-to-ground missile system capable of engaging targets at ranges of up to five miles under ideal conditions. The Maverick's infrared heat seeker locks onto the heat emitted by the target vehicle; this enables it to home in on a target without guidance from the aircraft once it is launched. The Maverick's charged warhead can vaporize the armor of any tank currently fielded by the Warsaw Pact. Operationally, the Maverick is a very lethal system, obtaining an 85% kill probability in weapons trials. Any vehicle or grounded aircraft can be taken out with Mavericks.

PavewayLaser Guided Bomb: LGB Effective against: **BRIDGES, BUNKERS BUILDINGS, INSTALLATIONS**

Another precision munition carried by the A-10 is the Texas Instruments GBU-10E Paveway II Mk 84 laser-guided 2,000 lb. bomb. The Paveway is basically an 'iron bomb' with a laser seeker and control surfaces added. A typical attack profile is as follows: The pilot locks onto a target illuminated by a ground or air based laser using the A-10s Pave Penny acquisition pod. Then he releases the weapon which glides to the target on its own, making mid-flight corrections as needed. Paveway is most effective against hard targets such as bridges, hardened aircraft revetments, and large buildings.

Honeywell Mk 20 Rockeye II Cluster Bomb: ROC Effective against: **VEHICLES**

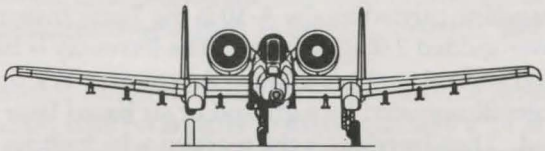
Despite the addition of a laser seeker on the newest versions, Rockeye is not considered a precision munition. The Rockeye relies on the 'scatter effect' of up to 150 armor piercing and high explosive bomblets to destroy its target. Anything within its lethal radius (about 500 feet) is certain to be damaged, and stands a fair chance of being totally destroyed. The Rockeye is most effective against lightly armored vehicles, (BRDM 3s, ACRVs, Mobile SAM launchers, grounded aircraft) but a lucky hit can kill a tank.

Matra Durandal Anti-Runway penetration Bomb: DUR Effective against: **AIRSTRIPS**

The Durandal is a very specialized weapon that is devastatingly effective against certain types of ground targets. It consists of a large HE (high explosive) warhead encased in a very hard steel jacket attached to a rocket motor. After launch, the ordnance releases a drag chute and falls until it is pointing straight down. Then the rocket motor fires, driving the Durandal deep into the target where it detonates. This explosion causes a huge 'heave effect' which can shatter reinforced concrete and make a runway unusable with only a single hit. In addition to runways, the Durandal is particularly effective against bunkers and underground fuel tanks.

AIM 9L Sidewinder: SID Effective against: **AIRCRAFT**

The AIM 9L Sidewinder is an air-to-air heat seeking missile with all-aspect tracking capability; this enables the missile to lock onto an enemy plane even if it's nose-to-nose with the A-10. The effective range for a sidewinder is about 5 miles.



HOSTILE UNITS

(See Tactical Information Display: pg. 23)

T-72, T-80 Main Battle Tank

Primary armament: 125mm cannon
Top speed: 60km/h
Threat to the A-10: none
The T-80 is a threat to anything on the ground. Its powerful 125mm cannon can take out other tanks, tank destroyers, SAM launchers, and buildings. The Avenger and Mavericks are the best way to engage it, although a Rockeye will sometimes destroy it. The A-10 'Tank-Killer' was designed to take out tanks like the T-80.

BMP-2 Infantry Fighting Vehicle

Primary armament: 30mm cannon
Top speed: 63 km/h
Threat to the A-10: none
The BMP-2 is a lightly armored, tracked vehicle. It is designed to carry troops on the battlefield. It's small cannon allows it to engage lightly armored vehicles like trucks, but it's no match for a tank. Engage it with the Avenger, a Rockeye, or a Maverick.

ACRV-2 Command Vehicle

Primary armament: none
Top speed: 58 km/h
Threat to the A-10: none
The ACRV-2 is lightly armored, tracked vehicle designed to serve as a mobile command post. It is unarmed. Engage it with the Avenger, a Maverick, or a Rockeye.

BRDM-3 Tank Destroyer

Primary armament: Anti-tank missile
Top speed: 90 km/h
Threat to the A-10: none
The BRDM-3 presents a great threat to any friendly tanks. Its weapon range is greater than that of the M1 Abrams. Engage it with the Avenger, a Maverick, or a Rockeye.

Zil-157 Truck

Top speed: 90 km/h

Threat to the A-10: none

The Zil-157 is the standard Soviet truck. It's used to transport troops, supplies, ammunition, and equipment.

SA-6 Gainful, SA-11 Gadfly SAM Launchers

Primary armament: Surface-to-Air Radar-Guided Missiles

Top speed: 58 km/h

Threat to the A-10: Great

The SA-6 and SA-11 are mobile surface-to-air missile launchers. The missiles track the A-10 with a radar guidance system. The system can sometimes be fooled by dropping chaff which distract the missile away from the A-10. The missiles do great damage to the A-10. The SA-11 has a much greater range than the SA-6. Engaging a SAM with the A-10 is dangerous, but can be done with the Avenger, a Maverick, or a Rockeye.

(For more information See: **Defensive Weapons Systems: p. 35** and **Tactics Against SAMs: p40**).

SA-9 Gaskin, SA-13 Gopher SAM Launchers

Primary armament: Surface-to-Air Infrared-Homing Missiles

Top speed: 90 km

Threat to the A-10: Great

The SA-9 and SA-13 are mobile surface-to-air missile launchers. The missiles home-in on the A-10 with an infrared heat-seeking system. They can sometimes be distracted by dropping a flare. These systems have a smaller range than their radar-guided counterparts (the SA-6 and SA-11). Engaging a SAM with the A-10 is dangerous, but can be done with the Avenger, a Maverick, or a Rockeye.

(For more information See: **Defensive Weapons Systems: p. 35** and **Tactics Against SAMs: p40**).

Mi-24 Hind Assault Helicopter

Primary armament: Anti-tank missiles

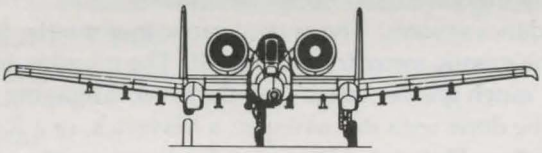
Top speed: 320 km/h

Threat to the A-10: none

The Hind is a fast, assault helicopter. It presents a great danger to your friendly ground forces. It is particulary effective against the M1 Abrams. It can be engaged with a Sidewinder, and skilled A-10 pilots can shoot it down with the Avenger.

MiG-27 Foxbat Strike Fighter

Primary armament: A variety of weapons mounted on the wings, including anti-aircraft missiles and bombs.
Top speed: 800 knots
Threat to the A-10: Great
The Foxbat can engage anything on the battlefield or in the air. Its anti-aircraft missiles can damage the A-10. It can be engaged with a Sidewinder, and a lucky Avenger shot could damage it.



FRIENDLIES

M1 Abrams Main Battle Tank

Primary armament: 120mm cannon
Top speed: 70 km/h
The M1 Abrams is effective against most ground targets. The A-10 should provide close-air support for the M1, especially when there are tank destroyers or Hind helicopters in the area.

M2 Bradley Infantry Fighting Vehicle

Primary armament: 25mm chaingun
Top speed: 65 km/h
The M2 is the US counterpart of the BMP-2. It can engage lightly armored targets, but should avoid one-on-one confrontations with tanks.

M48 Chaparral SAM Launcher

Primary armament: Surface-to-air Infrared-homing missile
Top speed: 60 km/h
The M48 is the standard air defense weapon system of the US. It can take out Hind helicopters and MiG-27 Foxbats. When the A-10 is threatened by a MiG, ducking beneath the 'umbrella' of an M48 is a smart move.

Farms

Farms are considered neutral civilian targets, and should not be attacked.

Bridges, Buildings, Supply Dumps, Bases, etc.

Structures such as these can be engaged with the Paveway LGB. However, before dropping an LGB on one, make sure that the mission objectives call for it to be destroyed. Taking out a bridge which US forces plan on crossing is not a smart tactic.

Airstrips

Airstrips controlled by the enemy can be destroyed with the Durandal.

Defensive Weapon Systems

ALQ-119 ECM Jamming pod: This pod hangs on the outside pylon of the left wing of the A-10. It has jammers which can temporarily confuse the radar-acquisition systems on SAM launchers. This gives the A-10 pilot a little extra time before hostile SAMs launch. Jammed launchers are indicated by a blinking dot on the RWR.

Flare: This is a small heat-emitting decoy that the A-10 pilot can release. It will sometimes fool an incoming infrared-homing SAM into tracking it instead of the A-10. It's useful against the SA-9 and SA-13.

Chaff: This is a cartridge which releases a cloud of small tin-foil strips. The cloud will reflect enemy radar and blind it for a few seconds. This will sometimes give the A-10 enough time to escape an incoming radar-guided SAM (such as the SA-6 and SA-11).

(See Radar Warning Receiver: pg. 21)

FLIGHT INSTRUCTIONS

(See Controls: pg. 8)

—— The Take Off ——

In most of the missions you will start off on the runway. Taking off is simple: Give the A-10 full throttle, and pull back on the stick. When you have enough speed, you'll lift off. With less than full throttle, you may run out of runway. Even this is rarely fatal. Recently an A-10 of the 81st Tactical Fighter Wing missed its takeoff and crashed into a beet field. The A-10 sustained very little damage.

—— Landing ——

It is not necessary to land in A-10 Tank Killer. You may quit at any time by pressing Q. This will end the mission and return you to base safely.

If you want to experience a landing, here's how. Line up about 4000 meters from the runway, flying in parallel toward the runway. Use the rudder to make small adjustments to your heading to get lined up exactly. Bring your throttle down to 4. Come to an altitude of about 100 feet and guide the A-10 in. Your copilot will automatically drop the flaps and landing gear for you. Once you set down, bring throttle down to 1.

——Taxiing ——

If you land, and the mission isn't over you'll want to take off again. To do this, you'll need to turn the A-10 around so you have enough runway. To taxi use a little throttle. For convenience, you can guide the A-10 on the ground with the rudder or aileron controls.

—— Flight ——

Aircraft are guided by control surfaces on the wings and tail, and by the amount of thrust generated by the engines. Ailerons on the wings control the roll of the A-10, and indirectly the heading. The tail controls the pitch, and the rudder controls the heading.

Climbing and Diving

To gain altitude, go into a climb. Just pull back on the stick until the A-10 is oriented upward (positive pitch). Continue climbing until you reach the altitude you want. A dive is just the opposite. Push forward on the stick to lose altitude.

Turning
There are several ways to execute a turn. The simplest way to turn is to move the stick left (or right). This will bank the A-10 slightly and will begin a turn. The more you bank, the more the A-10 will turn. When you've almost reached the heading you want, level the A-10 off.

A faster turn can be executed by moving the stick to the left (or right), and then pulling it back. This is the fastest way of changing heading. However it's very easy to overshoot the heading you want, and unless the A-10 was rolled exactly 90 degrees, you will also change your pitch.

Small adjustments to the heading can be made with the rudder. Using the rudder is the slowest way to turn, but it doesn't affect the pitch and it's the most precise. Usually you'll want to start a turn by moving the stick left (or right), get close to the heading you want, level the A-10 off, and then make the final adjustments to heading with the rudder.

Speed and Stalls
Speed is controlled by the throttle. Full throttle, Full speed. A stall happens when the plane is moving through the air too slowly. Lift is lost and the control surfaces don't work properly. The A-10 will nose down until the air speed is greater than the stall speed. To avoid stalls, keep the throttle at 4 or higher. Don't stall at low altitude unless you enjoy crashing.

COMBAT TACTICS

The A-10 is a special kind of aircraft— it's a combat aircraft armed to the teeth.

Finding the Target
Find the target you want on the Strategic Map, and then select it **(See pg. 24)**. You can select it by either positioning the arrow over it and clicking on it, or by sequencing through all the targets with the arrow buttons. The selected target will be highlighted on the map by a black square around it. The information display on the right will give you the bearing and distance of the target from your current position.

Return to the front cockpit view (**F1**). The destination indicator above the compass tape on the HUD will guide you to the target **(See pg.20)**. Just change your heading until the destination indicator (a small triangle) is centered on the tape. You are now heading directly towards the target. Stay low, and go full throttle and you'll reach the target. When you get near the target, it should appear in the TID screen. **(See pg. 23)**

Attack Tactics
When you're about 7000 meters from the target, slow down to attack speed— a throttle setting of 3 or 4. This will give you enough time to line up on the target.

Select the proper weapon type to use against the target.

Against Tanks: Select Avenger 30mm cannon, or select a MAVerick.

Against Other Vehicles: Select Avenger, MAVerick, or ROCkeye cluster bomb(especially if there are several vehicles close together).

Against Bridges, Bunkers, Buildings, or Installations: Select LGB.

Against Airstrips: Select DURandal.

Against Aircraft: Select SIDewinder.

An Avenger Attack Run
The Avenger is an unguided weapon, it's fixed to the fuselage of the A-10. You must position the sight over the target and fire. To set up a run, stay low (about 150 feet) and come in at slow speed. Line up on the target. Use the rudder to get lined up exactly on the target. Stay lined up, and at about 3000m, pitch the plane so that the cross hair is exactly over the target. Fire!

If there are several targets before you, use the rudder to spread the Avenger fire across them. Often you can eliminate an entire tank platoon in seconds!

Another useful tactic to score a hit is 'Walking the Fire' across the target. When the cross hairs are below the target, begin firing. Pull the impact point of the shells across the target by pulling back on the stick.

If you miss some of the targets on the first run, take a second run. Fly past the targets at full throttle for about 7 seconds. Throttle back down to a slower speed, and wheel the A-10 about with either a quick turn or a loop and half-roll. Line up again and finish off the target!

Other Weapons
The other weapons are simpler to score a hit with. Keep the target in the HUD. Sequence through all the targets on the HUD until the one you want is displayed in the TID and is selected on the HUD. Make sure the proper weapon type is selected. When the target is within range, a LOCKED will appear on the HUD next to the weapon type.

To see the full force of the attack switch to one of the cinematic views (**F8, F9,** or **F10**) . (**See A-10 Views. pg. 8**)

The LGB and Rockeye are guided bombs, whereas the Maverick and Sidewinder are missiles. With the LGB and Rockeye, the lock-on range is smaller.

Avenger vs. Maverick

Both weapons have the same purpose: To Kill Tanks. You'll have to decide which to use on each attack run. The Maverick is easier to use. Select the target you want on the TID, wait for LOCKED, and fire. The guidance system will ensure the Maverick hits the target. The Maverick has a greater range than the Avenger cannon, however, you have fewer Mavericks than Avenger bursts.

If you pop up over a hill and there's a SAM staring at you, it's better to take it out with the Avenger. Avenger shells are faster than a Maverick, and in quick draws like this the Avenger comes out on top. Trying to quick draw on a SAM with a Maverick is risky at best.

The Avenger is the most cost effective way to kill tanks. An Avenger burst costs a fraction of a Maverick missile.

Dogfights

Although the A-10 was not designed for dogfighting, A-10 pilots do not consider MiGs an unconquerable threat. At high altitudes the A-10 is at a distinct disadvantage, but at low altitudes a MiG has a hard time manuevering.

When you spot a MiG, keep him in front of you. If you have a Sidewinder, fire it as soon as you achieve lock-on. At close ranges, you can try to hit the MiG with an Avenger burst— but this is very difficult. If you're out of Sidewinders, mister you're in trouble. Your best chance is to stay low, drop flares when necessary, and run toward the 'umbrella' of a friendly SAM. If the MiG follows you into the 'umbrella', there's a good chance it will be shot down.

The A-10 can clean up against Hind helicopters. The Hind was not designed for air-to-air combat. You can use Sidewinders against a Hind, or use the Avenger. The Hind is much slower than a MiG, and with practice a good pilot can take out a Hind quickly with the Avenger.

Defensive Tactics Against SAMs

Stay low. The lower you fly, the greater the chance that the terrain will hide you from SAM launchers. Use the Strategic Map to stay outside the range of SAM launchers. Monitor the RWR to see what SAM threats are out there.

When a SAM is coming at you, there are some tactics to try. If there's a hill nearby, duck behind it. If the SAM is radar guided (indicated by the right most light above the blinking RWR), drop some chaff to distract it. If it has Infra Red homing (indicated by the left most light above the blinking RWR), then drop a flare or two. As a last resort, attempt to out-turn the SAM. This is very difficult.

If you find yourself in a quick draw with a SAM launcher, you can try and take it out with the Avenger before it launches.

MISSION PLAN

In the briefing Commander Cord will let you know what your mission objectives are, and what the priorities are. Once you're in the A-10, review the Strategic Map. It will familiarize you with the battle. Make a Flight Plan. However, due to the dynamic nature of land battles, you'll probably have to alter your Flight Plan several times. You will be receiving new orders and distress calls over the radio during the mission. Stay alert and stay flexible. Always keep your objectives in mind.

What tactics are employed when a SAM is launched at the A-10?
"In the first place, stay low to avoid SAM operators from acquiring the A-10. Once a SAM is launched, make a 3-D break away from the SAM. Additionally, flares can be dropped to decoy IR seeking missiles, and chaff are used on radar guided missiles."

What tactics are used when an enemy fighter, say a MiG, is spotted?
"Keep him in front of you. Don't let him on your tail. You can engage the fighter with sidewinders. Two sidewinders can be loaded on either outside pylon. The gun, although not very effective in shooting down aircraft, is very effective in making the enemy fighter take a defensive stance."

In actual combat, how low would you fly?
"Between 100 and 400 feet."

What's the role of the A-10?
"Close Air Support, we call it CAS. We support ground troops in close proximity, which is defined as operating within 1000 yards of friendly forces."

What's the difference between the role of the A-10, and the role of an attack helicopter?
"The roles are identical. Both aircraft provide Close Air Support. However, the capabilities of an attack helicopter are different."

In what way?
"Hiding for example. A helicopter hides by hovering low behind some trees, or by actually landing in an open field. The A-10, since it must keep moving, would hide by flying low behind a ridge line or hill. Helicopters are not as survivable as the A-10. One or two hits on a helicopter will generally cripple it, whereas the A-10 was designed to take hits. In Viet Nam, aircraft were hit quite a bit, so survivability was an important factor. Also, the A1-0 can carry much more ordnance. Helicopters carry about 2,000 lbs. The A-10 can carry 15,000 lbs."

The F16 is a ground attack aircraft, what's the difference between the A-10's role and the F16's role?
"The F16 is a fast aircraft. It is used for deep interdiction strikes into enemy territory—taking out a bridge behind enemy lines, for example. It can get in, strike, and get out. The A-10 can fly much slower than the F16. This is essential for Close Air Support. A-10 pilots can operate in a dynamic environment, where targets are moving rapidly and are well camouflaged. An A-10 pilot can spot a ground unit, identify it, wheel about, and destroy it. An F16 wouldn't even know it's there.

What would a typical mission consist of?
"In an actual war, say in Central Europe, an A-10 pilot would go out and fly low to a contact point. At the contact point, the pilot would talk to a ground commander, who might say 'Four enemy tanks were spotted in the open moving south bound at xx coordinates, and travelling at a speed of y. You're cleared to go ahead and engage them.' The contact would also let the pilot know what SAM threats are in the area, and what friendlies he should expect to see."

What's it like to fire the gun?
"The gun is very loud. It shakes the entire aircraft. You never get used to it."

What about firing a Maverick?
"What's nice about a Maverick is that you hear nothing. It releases and moves out in front of you. You can see the engine and the smoke. Whereas the gun is an audio experience, the Maverick is visual."

DESIGN NOTES

Our motivation for doing this product was the A-10 itself. It is perfect material for a high paced challenging simulation. The A-10 is designed to fight in a high threat environment, where the fronts of two armies meet. In the midst of all this chaos, an A-10 pilot has to make snap tactical decisions and adjust his plans according to the dynamics of the battlefield situation.

The A-10 has a lot of personality. Officially it's called the Thunderbolt II, but fliers call it the Warthog. A-10 pilots are called 'Hog-drivers'. Ground troops refer to the A-10 as the Devil's Cross. Due to its shape, tank commanders have a hard time telling if it's flying away or approaching. It's no wonder that this makes them nervous...the Avenger cannon can rip a tank apart in seconds.

In building **A-10 Tank Killer**, we wanted to create an experience that captured the personality and feel of the A-10. We especially wanted to create an experience that ***felt like the real thing***. We did extensive research on the plane itself (flight specifications, weapon data, etc.) to get the simulation accurate. But numbers don't tell you what it's like to really fly an A-10. So, we interviewed A-10 pilots to get a human perspective on the experience. One pilot remarked "Flying the A-10 is fun. Can you get that across in your simulation?" We'll leave that question up to you.

We wanted **A-10 Tank Killer** to be entertaining. That's why we chose to compress time. It keeps the pace high. All the dull moments spent ferrying back and forth to the front are squeezed out with time compression. We also chose to go with a two-seater A-10. There aren't very many of them in service, but we felt it was important to have that colorful talk that you get from your co-pilot.

In order to pull this product off properly, we had to overcome a lot of challenges. We optimized our 3-D graphics package for the fifth time in four years. We wrote several 256-color drawing routines which were faster than our 16-color drawing routines. And, we developed a digitizing process involving a photo-lab, real actors, costumes, and on-location photo-shoots. This last bit of technology was necessary because we knew that the hand-drawn, cartoonish look seen in most 16 color games wouldn't carry our desire to make **A-10 Tank Killer** ***feel like the real thing***. Our graphics had to look real, especially when we were going to be supporting 256 color VGA systems.

We think all of this effort was worth it and we hope that you enjoy playing ***A-10 Tank Killer*** as much as we enjoyed building it.

Here's to flying low and hitting hard.

A-10: Tank Killer Main Team Front and Center (left to right) Supporting Cast Behind
Randy Dersham, Dave Selle, David McClurg, Lincoln Hutton, Damon Slye, Cyrus Kanga, Mark Brennemen, Kobi Miller, Bryce Morsello and Sher Alltucker
(special thanks to Atrium Security for making this illegal shot possible)

Over 25 of the industry's best programmers, artists and background crew worked together to bring this product to life. A great many all-nighters, far too many 16 hour days, several dozen delivered pizzas, numerous Tetris™ matches and at least one bunny roast later, this program finds it's way into your hands. We hope that you have as much fun playing this product as we had creating it.

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