A-10C WARTHOG

A-10C Quickstart Guide



Please read before using this computer game or allowing your children to use it.

A very small proportion of people may experience a seizure or loss of consciousness when exposed to certain visual images, including flashing lights or light patterns that can occur in computer games. This may happen even with people who have no medical history of seizures, epilepsy, or "photosensitive epileptic seizures" while playing computer games.

These seizures have a variety of symptoms, including light-headedness, dizziness, disorientation, blurred vision, eye or face twitching, loss of consciousness or awareness even if momentarily.

Immediately stop playing and consult your doctor if you or your children experience any of the above symptoms

The risk of seizures can be reduced if the following precautions are taken, (as well as a general health advice for playing computer games):

- · Do not play when you are drowsy or tired.
- Play in a well-lit room.
- Rest for at least 10 minutes per hour when playing the computer game.

Installation

Digital Download: Place the Setup.exe file and all .bin files in the same folder and double click on the Setup.exe file to begin installation. Then follow the onscreen instructions.

DVD: Insert the DCS A-10C Warthog disk in your DVD drive and allow the automatic installer to begin. Then follow the on-screen instructions. If the installer does not start automatically, please go to My Computer, double-click on your DVD drive, find the Setup.exe program, and double-click on it to start the installer.

Note: You will need to be logged into Windows with Administrator rights in order to install the game.

DCS A-10C useful links

DCS Forum http://forums.eagle.ru/index.php

DCS Wiki http://en.wiki.eagle.ru/wiki/Main_Page

DCS: A10C Training Supplements:

http://en.wiki.eagle.ru/wiki/DCS:_A10C_Training_Supplements

Activation

Using the activation number provided (on back of Quick Start Guide or provided by online store), you will be required to activate your game purchase prior to flying a mission. During the Activation process, the copy protection system will create a hardware profile of your system and compare that to your current system each time you start the game. If there has been a significant change to your computer, like replacing significant hardware items or changing your Operating System, you may be required to reactivate your purchase.

Each game license (disk) has 10 activations and 10 deactivations. You can activate your game up to 10 times. The number of installations is unlimited!

This game also allows Activations Automatically ("AAA") technology that enables you to create a new activation once every 31 days. This ensures that you can still play the game, even if Eagle Dynamics no longer exists someday. This function is enabled after all 10 default activations have been used.

If the copy protection system detects changes to your computer hardware/software as described below, an activation will be required. It's important to note that deactivations are utilized to save your activations when altering your PC hardware/software. Before conducting a PC upgrade/OS re-install, you can deactivate the product and when complete, reactivate without a loss of activations. Again though, you can install the game as much as you wish.

http://www.star-force.com/support/users/deactivate/

Installation and Activation Guide

An activation will be required if the hardware/software changes exceed 12 points as rated below:

- CPU ID: 13
- Windows PID: 3
- Computer Name: 3
- Hard drive volume serial number: 3
- MAC address: 6
- RAM amount: 6

If you just uninstall the game and then reinstall it again on the same PC **without** reinstalling your operating system or changing hardware, you do not need to use a deactivation.

For further details on the copy protection system, please see the StarForce FAQ: <u>http://www.star-force.com/support/users/group2.php</u>

In addition, a step-by-step (de)activation guide is available below: http://www.star-force.com/support/users/group4.php#6

AUTOMATIC ACTIVATION

The Automatic Activation method is the preferred method; an Internet connection is necessary.

Install the game to your computer. Launch it and fly a mission.

The Activation window will be displayed. Please follow the directions.

Enter your Activation Number which is printed on the DVD Quick Start Guide sticker or was provided to you via e-mail. Press the **Next** button.

Warthog 64bit - Activation	
This product requires activation. Enter your Serial Number and press "Next". Internet connection is required.	Next
	Exit
DY-Y2PYX7-YVLSBS-6NVNNX-C83N85	
If you don't have an Internet connection, you can perform activation by \underline{other} means.	
If you don't have a Serial Number, you can <u>buy</u> it.	
You can <u>deactivate</u> the application on this computer. See Help for details. Afterwards this function will be available when running the application while holding Shift or Ctrl.	
I already have an Activation Key Help	English (United Sta 🔻

The Automatic Activation is now complete.

OTHER ACTIVATION METHODS

If the automatic process fails you may use one of two other activation means (Internet connection is necessary for both):

1. Activation via E-mail. Using this activation, you will be provided a hardware code that can be sent to the provided e-mail address for activation.

2. Activation via ProActive Web-site. A hardware code will be entered into the ProActive Web-site for activation.

Installation and Activation Guide

Activation via E-mail

If the automatic activation fails, press the **Other** link just below the edit-box.

Warthog 64bit - Activation	-	
This product requires activation. Enter your Serial Number and p Internet connection is required.	ress "Next".	Next
		Exit
DY-Y2PYX7-YVLSBS-6NVNNX-C83N85		Press the Other link
If you don't have an Internet connection, you can perform activ means.	ation by <u>other</u>	
If you don't have a Serial Number, you can \underline{buy} it.		
You can <u>deactivate</u> the application on this computer. See Help for Afterwards this function will be available when running the applic holding Shift or Ctrl.		
I already have an Activation Key	Help	English (United Sta 💌

🞽 Warthog - Activation	
Select preferable activation method: Press the E-mail tab	Next
Web Site E-mail	Back
Serial Number (identifies product copy):	Exit
FP-QF433A-GUN3Y7-YAV6VE-JHFU2K	
Hardware code (identifies computer):	
QWND-J8W6NX-APHN7N-FVUD67-2S98NJ	
For activation, submit specified Serial Number and Hardware Code to the activation site http://activate.actcontrol.net/ during one day. The activation site will create a personal Activation Key for you.	
To run the application, enter the Activation Key into this field and press "Next".	
	Help

Press the **E-mail** tab in the Information window.

Enter your Activation Number which is printed on the DVD Quick Start Guide sticker or was provided to you via e-mail. Press the Next button.

Warthog - Activation	
elect preferable activation method:	Next
Web Site E-mail	Back
Serial Number (identifies product copy):	Exit
FP-QF433A-GUN3Y7-YAV6VE-JHFU2K	
Hardware code (identifies computer):	
QWND-J8W6NX-APHN7N-FVUD67-2S98NJ	
For activation, submit specified Serial Number and Hardware Code to the e-mail address: <u>activation@digitalcombatsimulator.com</u> during one day. You will receive an email with your personal Activation Key in response.	
To run the application, enter the Activation Key into this field and press "Next".	
<u>.</u>	
	Help

When convenient, open your e-mail and send your Serial Number and Hardware Code to the indicated e-mail address. You will be sent an Activation Key shortly afterwards. Enter your Activation Key to the Activation field and press the **Next** button. Activation by e-mail will now be complete.

Activation via ProActive Web-site. If the automatic activation fails, press the **Other** link in the Activation window.

💾 Warthog 64bit - Activation	
This product requires activation. Enter your Serial Number and press "Next". Internet connection is required.	Next
	Exit
DY-Y2PYX7-YVLSBS-6NVNNX-C83N85	Press the Other link
If you don't have an Internet connection, you can perform activation by <u>oth</u> means.	<u>ler</u>
If you don't have a Serial Number, you can <u>buy</u> it.	
You can <u>deactivate</u> the application on this computer. See Help for details. Afterwards this function will be available when running the application while holding Shift or Ctrl.	
I already have an Activation Key Help	English (United Sta 🔻

Installation and Activation Guide

Your Hardware Code is then displayed in the Activation window. Copy the Serial number and Hardware Code and save them to a safe location.

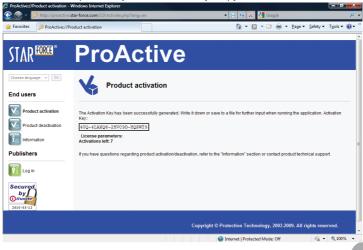
🛗 Warthog - Activation	
Select preferable activation method:	Next
Web Site E-mail	Back
Serial Number (identifies product copy): Copy the Serial number	Exit
Hardware code (identifies computer):	
XUXU-4DMT6H-NM4Y6L-2Y6QGP-5F52F For activation, submit specified Serial Number and Hardware Code are activation site http://proactive.star-force.com/2.0/activate.php during	link
one day. The activation site will create a personal Activation Key for you.	
To run the application, enter the Activation Key into this field and press "Next".	
	Help

Press the <u>proactive.star-force.com/2.0/activate.php</u> link in the Activation window. In case your computer is not connected to the Internet, you can save your Serial Number and Hardware Code and go to the link using another computer.

Enter the Serial Number and the Hardware Code to the corresponding fields of the ProActive Web-site and press the **Get Activation Key** button.



You will then be provided your Activation Key. Copy it to a safe location.



Installation and Activation Guide

Enter the Activation Key to the Activation field and press the Next button.

Warthog - Activation	
Select preferable activation method:	Next
Web Site E-mail	Back
Serial Number (identifies product copy):	Exit
FP-QF433A-GUN3Y7-YAV6VE-JHFU2K	
Hardware code (identifies computer):	
XUXU-4DMT6H-NM4Y6L-2Y6QGP-5FV52F	
For activation, submit specified Serial Number and Hardware Code to the activation site <u>http://proactive.star-force.com/2.0/activate.php</u> during one day. The activation site will create a personal Activation Key for you.	
To run the application, enter the Activation Key into this field and press "Next". Enter the Activation Key to the Activation fi	eld
8XZ-9S6P92-WST9LC-N2Z86E	_
	Help

Activation via ProActive Web-site is now complete. If restrictions on game usage have been implemented, the Activation window will display the details. Press Ok to launch the game.

Deactivation

To avoid using a product Activation, you may first Deactivate your installed game, make your changes, and then Activate again. You are provided 10 Deactivations.

You can launch the deactivation procedure by one of the two means:

- 1. The Automatic Deactivation
- 2. Deactivation via ProActive Web-site

The Automatic Deactivation

Run the **protect.exe** file, which is located in your Game\bin\ folder.

Select the **Activate or deactivate application** command as displayed in the window, then press the **Next** button.

License managery Select the Activate or deactivate Activate or deactivate product Miscellaneous Register event log	te application	Cancel
	Help	English (United Sta

Press the **Deactivate** link in the displayed window (the Serial Number used to Activate the application is indicated in this window by default).

Warthog 64bit - Activation	
This product requires activation. Enter your Serial Number and press "Next". Internet connection is required.	Next
	Exit
DY-Y2PYX7-YVLSBS-6NVNNX-C83N85	
If you don't have an Internet connection, you can perform activation by \underline{other} means.	
If you don't have a Press the Deactivate link it.	
You can <u>deactivate</u> the application on this computer. See Help for details. Afterwards this function will be available when running the application while holding Shift or Ctrl.	
I already have an Activation Key Help	English (United Sta 🔻

After pressing the **deactivate** link a window requesting deactivation confirmation is displayed.

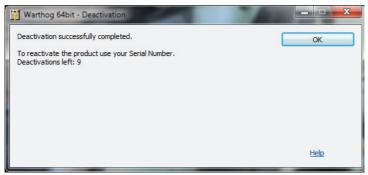
Installation and Activation Guide

Warthog 64bit - Deactivation	
Attention! The "Warthog 64bit" product will be deactivated. After deactivation, you will be unable to use this product on this computer without reactivation.	Deactivate
Check your Internet connection and press "Deactivate" to deactivate the product.	Back
If you have no Internet connection, you can perform deactivation by <u>other</u> means.	Exit
Help	English (United Sta 🔻

Press the **Deactivate** button; the following message is then displayed.

📅 Warthog 64bit - Deactivation	
Are you sure you want to deactivate the application on this computer? You will not be able to start the application until it is reactivated.	Yes
	No
	Exit
Help	English (United Sta 🔻

Press Yes button to begin the deactivation process.



Confirm the application deactivation with the **Ok** button.

The Automatic Deactivation is now complete.

Deactivation via ProActive Web-site

If automatic deactivation failed, or your computer is not connected to the Internet, a window suggesting deactivation appears. You click **other means** link in the Deactivation window.



Press Yes button to begin the deactivation process.

Installation and Activation Guide

🚆 Warthog - Deactivation	
Are you sure you want to deactivate the application on this computer? You will not be able to start the application until it is reactivated.	Yes
	No
	Exit
	Help

In the next window you should click

http://proactive.star-force.com/2.0/deactivate.php

link to go to ProActive Web-site.

🖞 Warthog - Deactivation	
The license has been deactivated. To enable reactivation, the deactivation should be registered on activation server: Web Site E-mail	ОК
To register the deactivation, submit specified Serial Number and Hardware Code to the activation site <u>http://proactive.star-</u> force.com/2.0/deactivate.php. The registration of deactivation will return used activation to the server. If you dose this window, the registration information will not be lost. You will be able to restore it by repeating the deactivation procedure. Serial Number (identifies product copy):	
FP-QF433A-GUN3Y7-YAV6VE-JHFU2K Hardware code (identifies computer):	
KM8F-HLXHK9-TALS93-P2Y9ZJ-CML5N5	Help

Press the Deactivate link in the displayed window (the Serial Number used to Activate the application is indicated in this window by default).

Copy your Serial Number and Hardware Code shown in the window. When you get to the ProActive Web-site enter the indicated Serial Number and Hardware Code in the corresponding fields of the ProActive Web-site. And press the **Deactivate** button.

Installation and Activation Guide



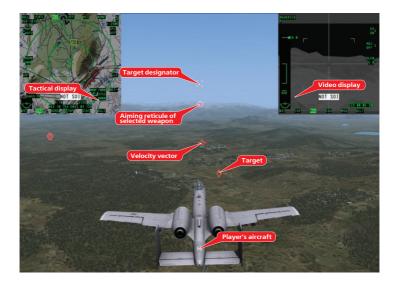
After that the following window with deactivation information will be displayed.



Deactivation via ProActive Web-site is now complete. LAN and Internet play require Internet Authorization

Players can fly using a third-person, chase camera view when the Game mode is ON. In this view, the camera is located directly behind the aircraft. Players can also jump into the cockpit by pressing **[F1]** (to go back to third-person view press **[F4]**).

The [F4] view presents the player with the following indicators:



VELOCITY VECTOR. The aircraft's vector of flight.

TARGET DESIGNATOR. Player selected target.

AIMING RETICLE OF SELECTED WEAPON. The location on the ground is the selected weapon's aimpoint.

TACTICAL DISPLAY. The screen displaying the map, the route and all the units around the aircraft.

PLAYER'S AIRCRAFT. The view directly behind the player's aircraft.

TARGET. The object that can be selected as target.

VIDEO DISPLAY. The screen that can display video from targeting pad or Maverick missiles.



WEAPON STATIONS DISPLAY. The display appears by pressing of the weapon selected button **[D]**. Rotary through all weapon stations. Indicates currently selected weapon including its type and remaining ammo. Display disappears shortly after weapon selected.

- AGM-65 MAVERICK tactical air-to-surface missile. Fire and forget.
- Mk-82, Mk-84 general purpose bombs.
- M-151 unguided air-to-ground rockets.
- CBU-87/103 cluster bomb unit. The combined effect munition for soft skin targets.
- CBU-97/105 cluster bomb unit. Sensor fuzed weapon for armor targets.
- GBU-10/12 laser guided bombs.
- GBU-31/38 inertially aided munitions. JDAMs.
- AIM-9 short range air-to-air missiles.
- LITENING targeting pad.
- WPNS OFF not selected weapon on station, the aiming reticle will display gun pipper.

WEAPON STATUS DISPLAY. The information display of the selected weapon.



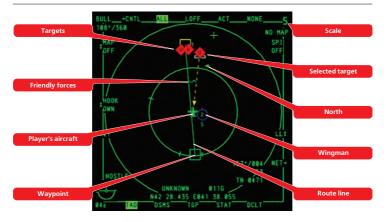
TARGETS. Hostile objects are marked with red indicators.

SELECTED TARGET. The target locked by the targeting system.

VIDEO. SELECTED TARGET. The video from the MAVERICK missile or targeting pad optical targeting system.

GREEN. FRIENDLY GROUND OBJECTS. Friendly objects are marked with green indicators.

DISTANCE TO TARGET. Distance to target in nautical miles.



TARGETS. Red markers - enemy units.

FRIENDLY FORCES. Green markers - friendly units.

PLAYER'S AIRCRAFT. Aircraft's location is always assumed in the center.

WAYPOINT. Waypoint of the route.

SCALE. Display screen scale in NM.

SELECTED TARGET. Player's selected targets.

NORTH. Compass north indicator.

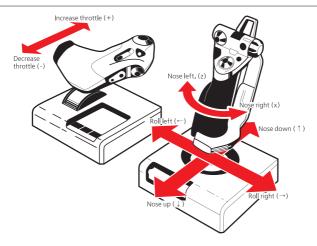
WINGMAN. Wingman position.

ROUTE LINE. Player's route line.

$\langle \rangle$	Red	Target designator
0	Red	Aiming reticule of selected weapon
$\mathbf{\hat{\mathbf{c}}}$	Red	Selected and locked enemy target mark
0	Red	Aimpoint marker. Inside the firing range
•	Green	Current waypoint
1	Red	Enemy SAM
1	Green	Friendly SAM
\diamond	Red	Enemy vehicle
\diamond	Green	Friendly vehicle
Δ	Red	Enemy aircraft
Δ	Green	Friendly aircraft

Below is a list of basic commands used in simplified game mode.	
Automatic aircraft start up :	[Home + LWin]
Select center aircraft:	[P]
Select nearest aircraft:	[0]
Select previous aircraft	[[]
Select next aircraft:	[]]
Select center ground target:	[V]
Select nearest ground target:	[B]
Select previous ground target:	[N]
Select next ground target:	[M]
Deselect target:	[Del]
Cycle weapons:	[D]
Fire selected weapon:	[LAlt - Space]
Gun Fire:	[Space]
Release countermeasures:	[7]
Outside view:	[F4]
Cockpit view:	[F1]
Instant padlock:	[Numpad Del] press and hold
Padlock:	[Numpad Del] short press
Unlock:	[Numpad Del] second short press

Takeoff



To perform a takeoff, move the throttle all the way forward for maximum engine power. Use the nose left/right commands to keep the aircraft running down the center of the runway. When airspeed reaches 80 knots, disable Nosewheel Steering by pressing INSERT. When airspeed reaches 125 knots, gently pull the control stick back. The nosewheel will lift off the runway around 135 knots. Keep the nose approximately 10degrees up to avoid striking the tail of the aircraft against the runway. The aircraft will become airborne within a few moments.



As soon as the aircraft is airborne and climbing steadily, raise the gear by pressing G. Reduce the climb angle to accelerate to 150 knots. Raise the flaps by pressing LCtrl+F on the keyboard. Maintain 175 knots as you climb to altitude.

Airspeed is a critical factor throughout the flight envelope. Pay careful attention to it and avoid dropping below 150 knots as this may cause a loss of control, called a stall, which can lead to a crash to the ground. To turn left or right, increase roll in the desired direction. Avoid roll angles of greater than 60 degrees until you are comfortable with aircraft control. Push the stick to the side to roll to approximately 60-degrees and monitor the aircraft's behavior in the turn. Use the control stick to maintain altitude in the turn by gently pulling back or pushing forward on the stick. Roll back to wings level to return the aircraft to level flight.



The flight route is usually displayed on one of the two Multi-Function Color Displays (MFCD) in the cockpit. Fly along the green line toward your navigation or target waypoints.

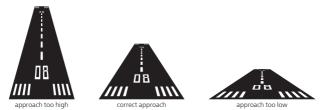


The A-10C is equipped with a trimmer mechanism. This device allows you to maintain the position of the control stick without having to hold it by hand. Once you are stabilized in level flight, trim the aircraft using the "," "." "/" ";" keys on the keyboard to maintain the current position. When properly trimmed, the aircraft should maintain level flight without your input on the control stick.

Landing

When landing, aircraft descend toward the runway along a slant trajectory, called a glideslope. Flaps are used to lower the approach speed. When extended, flaps lower the stall threshold, but also increase drag. This means more engine thrust is required to maintain a safe approach speed.

Maneuver the aircraft to line up your flight path along the length of the runway. Try to do this about 8-10 miles out at an altitude of 2,000 ft. Maintain a steady descent toward the runway. The position of the runway in your view can be used to help maintain the correct approach angle as demonstrated below:



Reduce your airspeed to 180 knots. Lower the landing gear by pressing G on the keyboard and extend the flaps to landing configuration by pressing LSHIT+F twice. Continue to reduce airspeed to 150 knots. Try to calculate the approach so that you pass over the runway threshold at approximately 30-50 feet and 150-135 knots, depending on your payload and weight (the heavier the aircraft, the higher the approach speed required to avoid a stall). Approximately 10-15 feet above the runway, begin to gently pull the stick back to flare the aircraft. This will reduce your vertical velocity and airspeed for a gentle and controlled touchdown by the main landing gears.



Begin to apply the brakes carefully by pressing the W key and allow the nose to drop for nose gear touchdown. Once your speed drops below 80 knots, engage Nosewheel Steering by pressing the INSERT key. Use the nose left/right commands (rudder pedals, joystick twist or the Z and X keys on the keyboard) to keep the aircraft running down the center of the runway.

Landing is one of the more challenging elements of any flight. Practice until you are able to perform landings proficiently.

Multi-Function Color Displays (MFCD)



The A-10C is designed around the concept of "HOTAS" (Hands On Throttle and Stick), which means most of the common cockpit commands can be performed without taking the pilot's hands off the stick and throttle. Because the number of buttons on the controls is limited, the pilot selects which display he wants to command and this becomes the Sensor of Interest or SOI. When an MFCD is set as SOI, the display indication is framed in green.

When the Heads Up Display (HUD) is selected as SOI, the asterisk cue appears on the left side of the display.



To set the HUD as SOI, press U on the keyboard. To set the left MFCD as SOI, press and hold H. To set the right MFCD as SOI, press and hold K.

The row of buttons along the bottom of the MFCD is used to select the display page. For example, the TAD (Tactical Awareness Display) page is being indicated on the MFCD screenshot above. This page indicates the map and flight route. The remaining pages will be described in later sections of the manual.

Combat preparation

Below the left MFCD, the Armament HUD Control Panel (AHCP) is used to turn on combat systems. When preparing for combat, turn on (set to the UP position) the following switches: Master Arm, Laser Arm, GUNPAC cannon stabilization system if you intend to use the gun, TGP if carrying a targeting pod.



To see the weapons loaded on the jet, open the DSMS (Digital Stores Management System) page on the MFCD by pressing the "DSMS" page button.



The DSMS page indicates the current master mode and selected weapons. Select weapons by pressing the weapon select buttons of the desired weapon stations.

To quickly cycle through available weapons instead of selecting individual weapon stations, first make the HUD SOI by pressing U and then press the DMS left (DELETE) or DMS right (PAGE DOWN) commands.

Master modes are cycled by pressing the Master Mode Button (M) command.

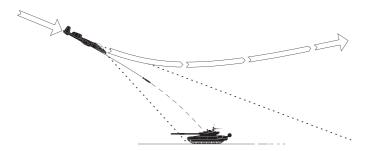
Make sure the Master Arm and GUNPAC switches are set to ON as described above. Open the DSMS page on the MFCD and select GUNS master mode by pressing the Master Mode Button (M).



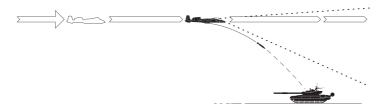
When GUNS master mode is selected, the gun aiming reticle will appear on the HUD. Once the target is within firing range, a range bar inside the reticle will begin to unwind counter-clockwise to indicate target range. Target range is also displayed as a value directly below the gun reticle.



Fire at the target when within range as indicated by the unwinding range bar. If the range bar is completely closed, the target is too far for effective fire.



CCIP mode is fairly simple. The pilot maintains the target in sight by diving toward it and releases the weapons when the aiming pipper passes over the target. The disadvantage of this method is that diving toward the target makes the attack difficult to execute and potentially dangerous.



To overcome these limitations, the A-10C can release weapons in CCRP mode. In CCRP, the pilot first designates a target point. He can then continue to fly level or even climb as the target disappears out of view below the nose of the aircraft. However, the computer will continue to provide aiming cues to the pilot by indicating a release point cue on the HUD. The pilot has to fly the aircraft to align the aiming reticle and the release point. Weapons are then released when the release point passes through the aiming reticle.

The disadvantage of CCRP mode is reduced accuracy.

The majority of A-10C weapons can be employed in either mode.

We'll review target designation procedures next. Then, we'll take a look through the steps required to employ various types of bombs and missiles.

Target designation using the HUD

Some of the weapons carried by the A-10C require a target to be designated. This can be done in a number of ways: the targeting box on the HUD, the Targeting Pod or the Maverick missile seeker. Let's consider HUD designation first.

To begin, make sure the HUD is SOI by pressing U. The HUD targeting box will appear on the display.





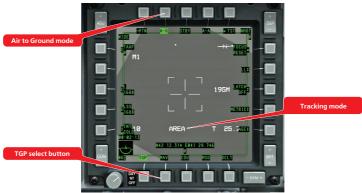
The HUD targeting box can be moved using the SLEW CONTROL switch or "," "." "/" ";" keys on the keyboard. To designate a target, position the targeting box over the target and press and hold the TMS UP command or LCTRL+UP on the keyboard. Once the target is designated, a short line will extend from the targeting box toward the top of the HUD.

On the TAD page of the MFCD, the target point is indicated as a "wedding cake" symbol.



Target Designation Using the Targeting Pod

The Targeting Pod (TGP) is an external container carried on one of the weapon stations. It is equipped with powerful cameras, which allow the pilot to see a close-up video picture of the target area on the MFCD in the cockpit in daytime and night-time conditions. The TGP is designated AAQ-28 LITENING and needs to be included in the aircraft payload when preparing missions in the mission editor. Prior to using the TGP, it needs to be turned on as described earlier in the Combat Preparation section. When first turned on, the TGP will already be turned on and ready for operation. If the mission starts in mid-air, the TGP will already be turned on and ready for operation.



Press the TGP select button and watch for the TGP OFF indication to appear. Select A-G (Air to Ground) mode by pressing the A-G select button. The display will now show a video picture from the TGP camera. Make the TGP display SOI by pressing the TGP select button at the bottom of the MFCD once more. A diamond will appear on the HUD to indicate the location of the TGP view.

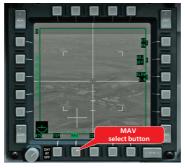


The TGP diamond can be moved using the SLEW CONTROL switch or "," "." "/" ";" keys on the keyboard. You can select between wide field of view (further from the target) and narrow field of view (closer to the target) by pressing the CHINA HAT forward command or V on the keyboard. You can also zoom the camera by pressing the DMS UP/DOWN commands or HOME/END on the keyboard. The camera has two stabilization modes: AREA track and POINT track. POINT track can be used to track a specific object, such as a moving vehicle. Press TMS UP (LCTRL+UP) to select tracking modes. Once you are tracking your desired target, press and hold TMS UP (LCTRL+UP) to designate the target.

Once the target is designated, the target line will appear on the HUD and the "wedding cake" will appear over the target position on the TAD map as discussed previously in the HUD designation section.

To re-center the camera, press the CHINA HAT aft command or C on the keyboard.

Maverick missiles are equipped with cameras as part of the seeker head. These can be used to lock onto and designate targets. First, select the Maverick MFCD page by pressing the MAV select button on the MFCD.



Press the MAV select button once more to set the Maverick display as SOI. Use the SLEW CONTROL switch or "," "," "," "; keys to position the center of the Maverick crosshairs over the target. You may want to select narrow field of view (close to the target) by pressing CHINA HAT forward (V). When the center of the crosshairs is over the target, release the slew switch to command the missile seeker to lock onto the target. This may not always work right away. The missile seeker works best against smaller-sized targets with high contrast against the background terrain.

The Maverick "wagon wheel" on the HUD indicates the location of the Maverick view.



To designate a target, press and hold TMS UP (LCTRL+UP). Once the target is designated, the target line will appear on the HUD and the "wedding cake" will appear over the target position on the TAD map as discussed previously in the HUD and TGP designation sections.

Employment of Unguided Rockets

Unguided rockets are typically used against soft targets, such as enemy personnel and lightly armored vehicles.

Rockets are simple to use, but require some practice to successfully hit targets. All rockets carried by the A-10C are loaded in rocket pods starting with the designation LAU, which can be hung on a number of weapons stations of the aircraft.



Prepare the aircraft for rocket employment as described previously. Rockets don't require a target to be designated. Select the DSMS page on the MFCD. Select rockets as your weapon by pressing the corresponding weapon select button(s). Make sure CCIP master mode is selected or press the Master Mode Button (M) to select it.

The rocket aiming reticle will appear on the HUD.



As with the Gun reticle, the unwinding range bar inside the reticle indicates target range. The pilot has to simply position the aiming pipper at the center of the reticle over the target and press the weapons release button (RALT+SPACE). Because rockets are unguided, your chances of hitting the target increase as the range decreases.

Unguided bombs are used against stationary and slowly moving targets. Employment of unguided bombs in CCIP mode is very similar to the employment of rockets, except that you will generally need to use greater dive angles.

Prepare the aircraft for combat employment as discussed previously. Select unguided bombs on the DSMS page by pressing the corresponding select buttons on the MFCD. Make sure CCIP mode is selected or press the Master Mode Button (M) to select it.



The HUD will indicate a line extending from an aiming reticle. At first, the indication will probably be dashed and the reticle will be latched to the button of the HUD. This means the aiming pipper is currently positioned too low to be visible on the HUD. Increase your dive angle to bring the reticle into view. Be careful not to overspeed the aircraft in the dive. Reduce engine power and open the speedbrakes if necessary. Maintain the target on the aiming line as the reticle approaches the target. As with the Gun and Rocket reticles, the unwinding range bar inside the reticle will indicate target range.



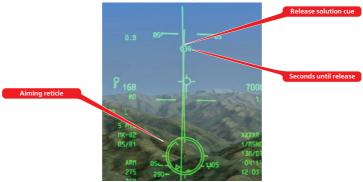
Press the weapons release button (RALT+SPACE) as the aiming pipper in the center of the reticle passes over the target. Pull out of the dive carefully so as not to lose control of the aircraft. Note that you do not need to designate a target in CCIP mode.

Employment of Bombs in CCRP Mode

Bombs employment in CCRP mode is similar to CCIP mode, except that you will be aiming at the release solution cue displayed on the HUD instead of directly at the target. Select unguided bombs on the DSMS page by pressing the corresponding select buttons on the MFCD. Designate a target using any of the methods described previously. Select CCRP master mode by pressing the Master Mode Button (M).



The HUD will indicate a line extending from an aiming reticle as in CCIP mode, however it will also indicate another steering line with the release solution cue displayed at the top. Fly the aircraft so that the two lines are aligned.



Try to maintain level flight with minimal roll. As you approach the release point, the release solution cue will begin to fall down toward the aiming reticle. Press and hold the weapons release button (RALT+SPACE). Your goal is to have the solution cue pass directly through the center of the aiming reticle. As the solution cue passes through the reticle, the bombs will be released automatically.

CCRP mode is less accurate than CCIP, but does not require a dive toward the target, making it a much safer method. Accuracy also depends on careful target designation.

Inertially-Guided Munitions (IAM) are designed to be used against stationary targets with high precision and autonomous navigation to the target. IAMs store target coordinates and use an inertial navigation system or GPS to guide toward the target without assistance from the launching aircraft. IAMs can only be employed in CCRP mode.



Prepare the aircraft for combat as described previously. Designate a target using any of the methods described previously. Select an IAM weapon on the DSMS page. The HUD will indicate an aiming reticle with two triangle indexes: the maximum and minimum employment range.



When the target is within firing range as indicated by the position of the range bar between the maximum and minimum range indexes, the MAN REL cue will appear on the HUD. Press and hold the weapons release button (RALT+SPACE) until the bomb comes off the station.

If you press and release the weapons release button too quickly, the bomb may get "hung" and will no longer be usable.

Employment of Laser-Guided Bombs

Laser-Guided Bombs (LGB) are used against targets "painted" by a laser designator. Laser designation can be performed by your own TGP or by another platform in the air or on the ground.

A laser designator will fire the laser onto the target with a specific laser code. The same code must be set for the weapon's laser seeker in order for it to detect the designated target. We'll consider employment of an LGB using own TGP designation. By default, both the bomb and the TGP will be set to the laser code 1688, so we will not need to alter these settings.



Prepare the aircraft for combat as described previously. Select an LGB (GBU-10 or GBU-12) on the DSMS. Select CCRP master mode by pressing the Master Mode Button (M).



Designate a target using the TGP as described previously. Make sure the L cue is present on the TGP display to indicate the laser is ready for operation. Employing LGBs is similar to the employment of unguided bombs in CCRP modes. The HUD will indicate the reticle and solution cue aiming lines. Fly the aircraft to keep these two lines aligned. As the solution cue begins to fall down toward the reticle, press and hold the Weapons Release Button (RALT+SPACE). As the solution cue passes through the aiming reticle, the bomb will be released automatically. Make sure the target stays within the TGP field of view until the bomb impacts. Maverick precision guided air-to-surface missiles are used against small and medium-sized targets, such as stationary and moving vehicles and structures. Prepare the aircraft for combat as described previously. Select Maverick (AGM-65) missiles on the DSMS. Note the missile readiness indication in the bottom-right corner of the weapon display box on the DSMS. This should say "RDY" when the missiles are ready for use. When not starting a mission in mid-air, the Mavericks will need about 3 minutes to prepare for operation.



Select the Maverick page on the MFCD by pressing the MAV select button. Press the MAV select button once more to set the MAV page as SOI. The display will indicate video from the missile seeker. Slew the crosshairs over the target using the SLEW CONTROL switch or the "," ""." "/" "," commands. When the center of the crosshairs is over the target, release the slew switch to command the missile seeker to lock onto the target. This may not always work right away. The missile seeker works best against smaller-sized targets with high contrast against the background terrain.



The left side of the display will indicate maximum, minimum and current target range. You may want to select narrow field of view (close to the target) by pressing CHINA HAT forward (V). Once a target is locked and is within firing range (current range between maximum and minimum), simply press the Weapons Release Button (RALT+SPACE).

To re-center the Maverick seeker position, press the CHINA HAT aft command or C on the keyboard.

Air to Air

The A-10C has limited capabilities for air to air combat. If you are armed with AIM-9 Sidewinder missiles, select these on the DSMS.

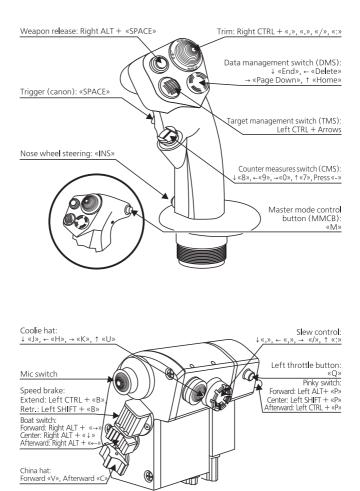


The HUD will indicate the AIM-9 aiming reticle. Targets can be locked under approximately 6-8 miles. Place the reticle over the target by either maneuvering the aircraft toward it or moving the reticle using the SLEW CONTROL switch or "," "." "/" ";" commands. When a target is locked, the Sidewinder "tone" will change to a higher pitch. You can uncage the seeker by pressing the CHINA HAT forward (V) command to make sure it's "stuck" to the target and has a good lock.

To re-center the seeker, press the CHINA HAT aft (C) command.



Once the target is locked, fire the missile by pressing the Weapons Release Button (RALT+SPACE) and watch to ensure a good kill.



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