

A-10C

WARTHOG



DCS A-10C Quickstart Guide

DCS
SERIES

Health Warning

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.

<i>Immediately stop playing and consult your doctor if you or your children experience any of the above symptoms</i>
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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.

DCS A-10C useful links

DCS Forum

<http://forums.eagle.ru/index.php>

DCS Wiki

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

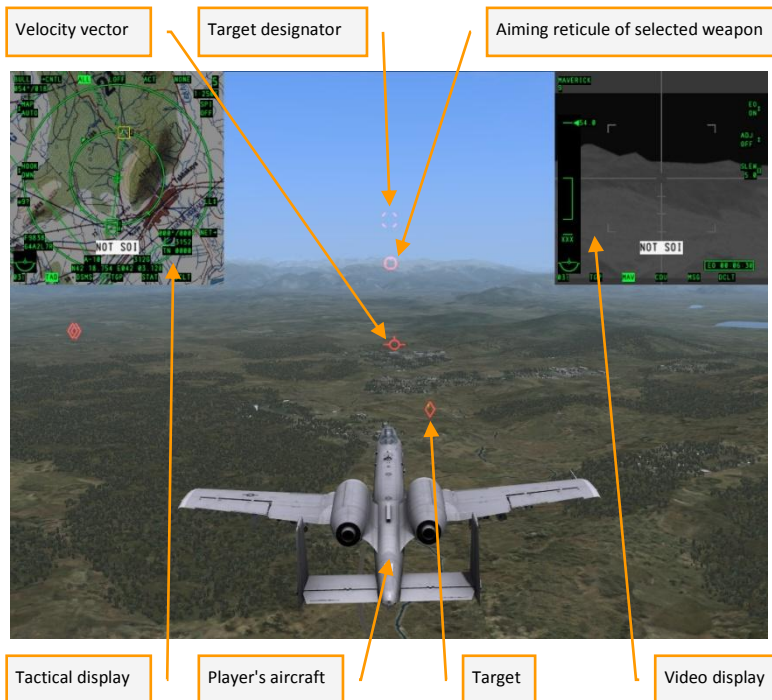
DCS: A10C Training Supplements:

[http://en.wiki.eagle.ru/wiki/DCS: A10C Training Supplements](http://en.wiki.eagle.ru/wiki/DCS:_A10C_Training_Supplements)

GAME MODE

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

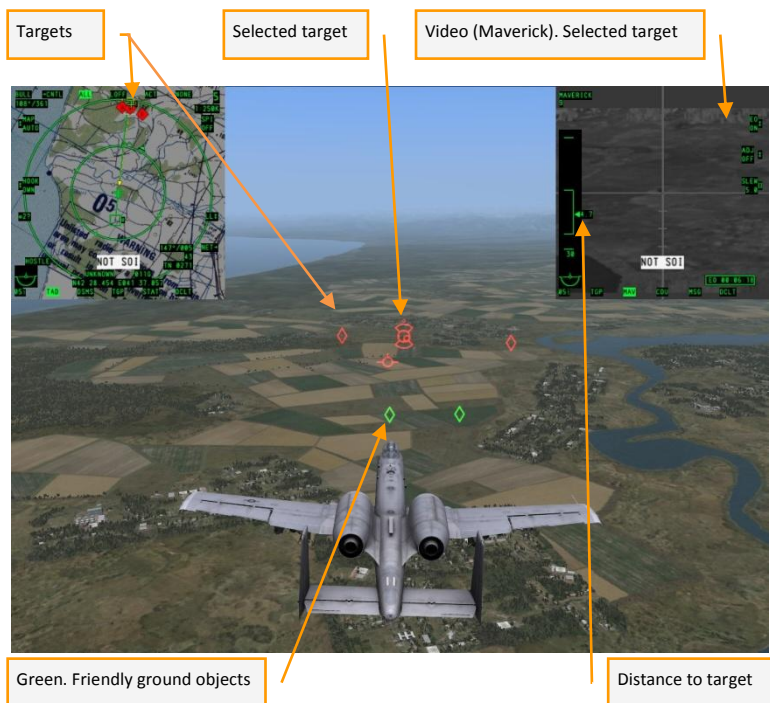
Weapon status display

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.

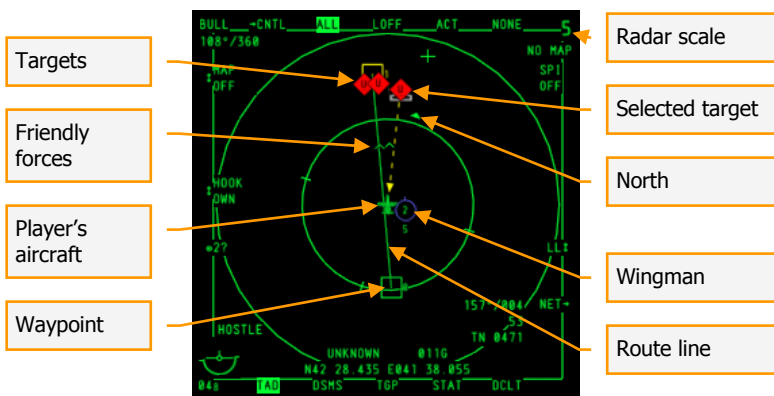
- **AGM-65 MAVERICK** – tactical air-to-surface missile. Fire and forget.
- **Mk-82, Mk-84** - general purpose bombs.
- **M-151** - unguided air-to-ground rockets.

- **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 pod.
- **WPNS OFF** - not selected weapon on station, the aiming reticle will display gun piper.













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



DISTANCE TO TARGET. Distance to target in nautical miles.



ROUTE LINE. Player's route line.

	Red	Target designator
	Red	Aiming reticule of selected weapon
	Red	Selected and locked enemy target mark
	White	Aimpoint marker. Outside the firing range
	Red	Aimpoint marker. Inside the firing range
	Green	Current waypoint
	Red	Enemy SAM
	Green	Friendly SAM
	Red	Enemy vehicle
	Green	Friendly vehicle
	Red	Enemy aircraft
	Green	Friendly aircraft

Commands

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: [\[O\]](#)

Select previous aircraft: [\[I\]](#)

Select next aircraft: [\[J\]](#)

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: [\[F4\]](#)

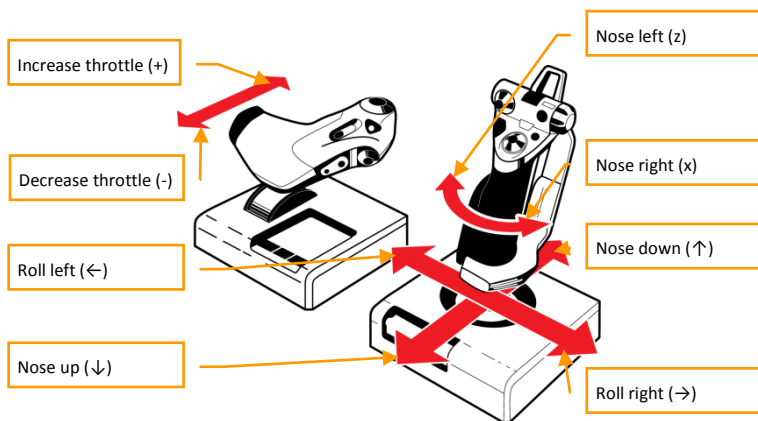
Cockpit view: [\[F1\]](#)

Instant padlock: [\[Numpad Del\]](#) press and hold

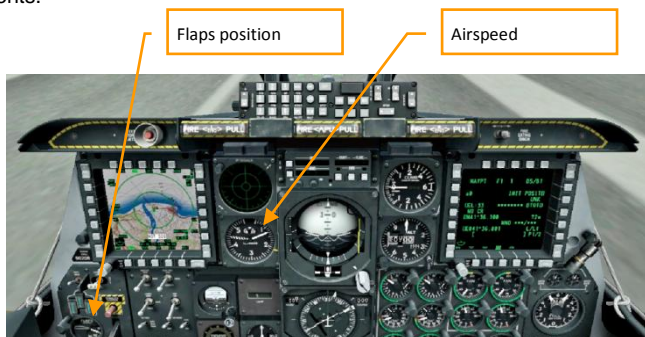
Padlock: [\[Numpad Del\]](#) short press

Unlock: [\[Numpad Del\]](#) second short press

SIMULATION MODE



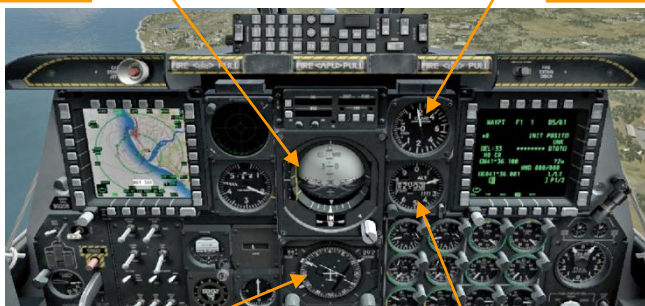
To perform a takeoff, move the throttle all the way forward for maximum engine power. Use the nose left/right commands to keep the aircraft running down the center of the runway. When airspeed reaches 80 knots, disable Nosewheel Steering by pressing INSERT. When airspeed reaches 125 knots, gently pull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



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.

Attitude

Vertical Velocity



Heading

Altitude

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.

Your flight route



Your aircraft

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.

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:



approach too high



correct approach

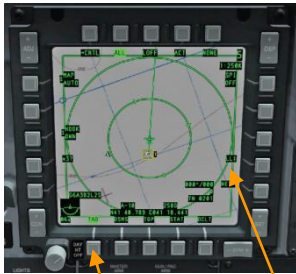


approach too low

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 LSHIFT+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.



Display page
select buttons

SOI frame

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.



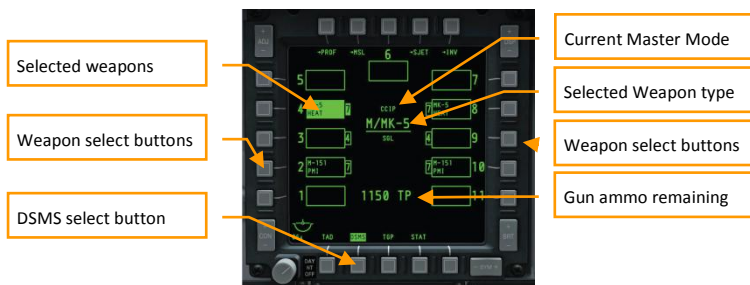
Asterisk SOI indication on the HUD

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.

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.

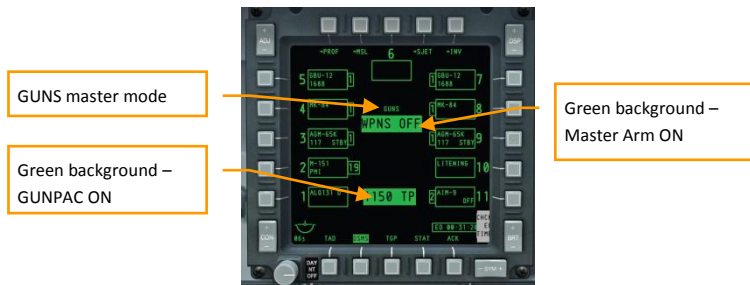


The DSMS page indicates the current master mode and selected weapons. Select weapons by pressing the weapon select buttons of the desired weapon stations.

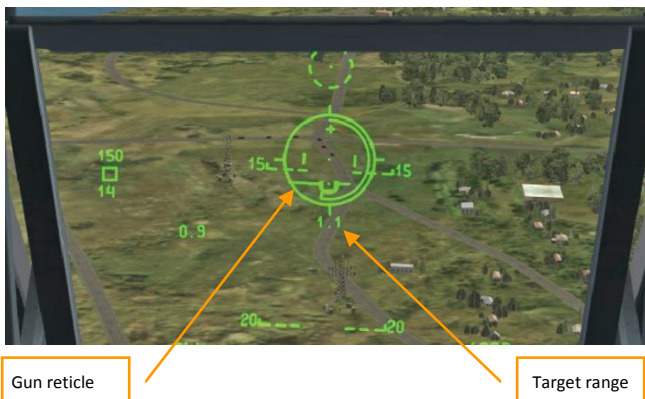
To quickly cycle through available weapons instead of selecting individual weapon stations, first make the HUD SOI by pressing U and then press the DMS left (DELETE) or DMS right (PAGE DOWN) commands.

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

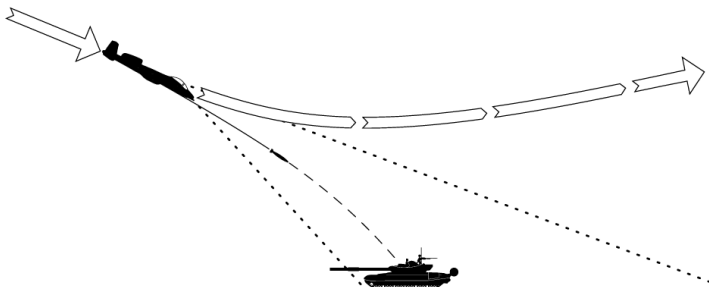
Make sure the Master Arm and GUNPAC switches are set to ON as described above. Open the DSMS page on the MFCD and select GUNS master mode by pressing the Master Mode Button (M).



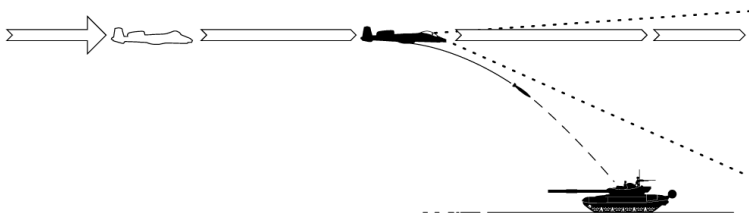
When GUNS master mode is selected, the gun aiming reticle will appear on the HUD. Once the target is within firing range, a range bar inside the reticle will begin to unwind counter-clockwise to indicate target range. Target range is also displayed as a value directly below the gun reticle.



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.

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.



HUD targeting box



Designated target indication

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.

Designated target symbol



Air to Ground mode

Tracking mode

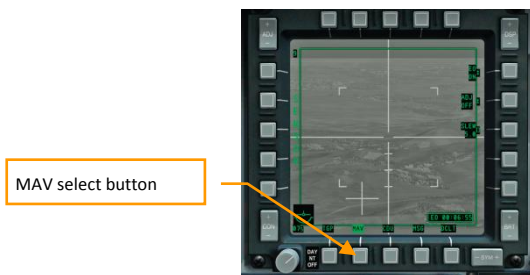
TGP select button

A screenshot of the TGP (Targeting and Guidance Panel) view diamond on the HUD. The view is from a first-person perspective, looking through a targeting reticle. The background shows a landscape with green hills and a blue body of water. The HUD displays various data points, including a green reticle, a red reticle, and a yellow reticle. A yellow arrow points to the yellow reticle, which is labeled "TGP view diamond on the HUD".

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.

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.

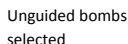


Prepare the aircraft for rocket employment as described previously. Rockets don't require a target to be designated. Select the DSMS page on the MFC. Select rockets as your weapon by pressing the corresponding weapon select button(s). Make sure CCIP master mode is selected or press the Master Mode Button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



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.

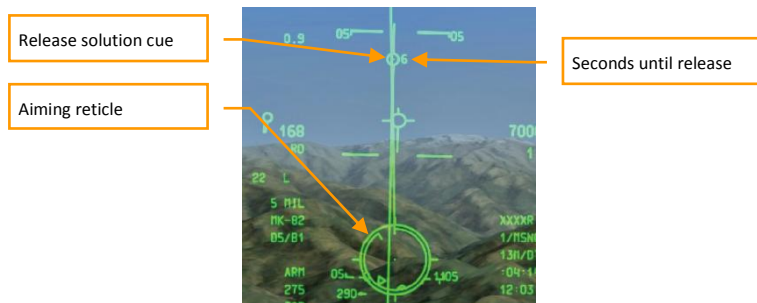


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Bombs employment in CCRP mode is similar to CCIP mode, except that you will be aiming at the release solution cue displayed on the HUD instead of directly at the target. Select unguided bombs on the DSMS page by pressing the corresponding select buttons 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.

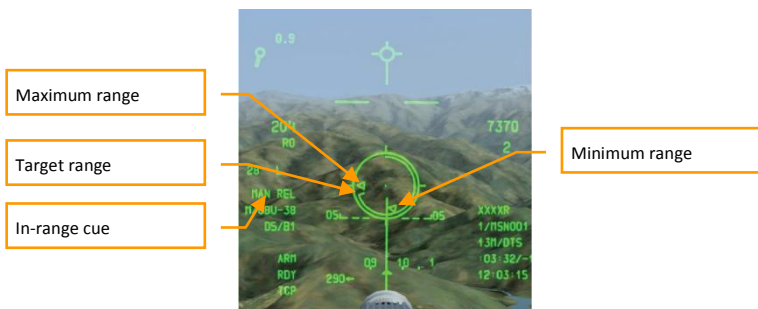
CCRP mode is less accurate than CCIP, but does not require a dive toward the target, making it a much safer method. Accuracy also depends on careful target designation.

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. IAM 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.

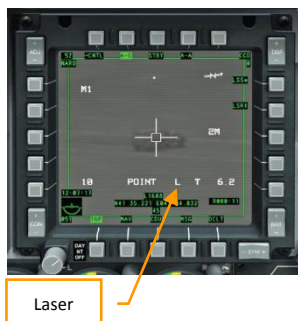
If you press and release the weapons release button too quickly, the bomb may get "hung" and will no longer be usable.

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 a 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 (RLAT+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.

Three missiles loaded
per station



Target range



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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.



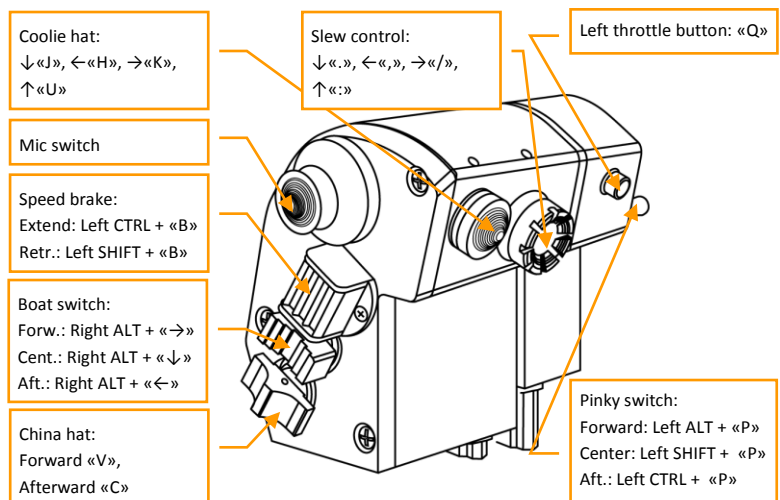
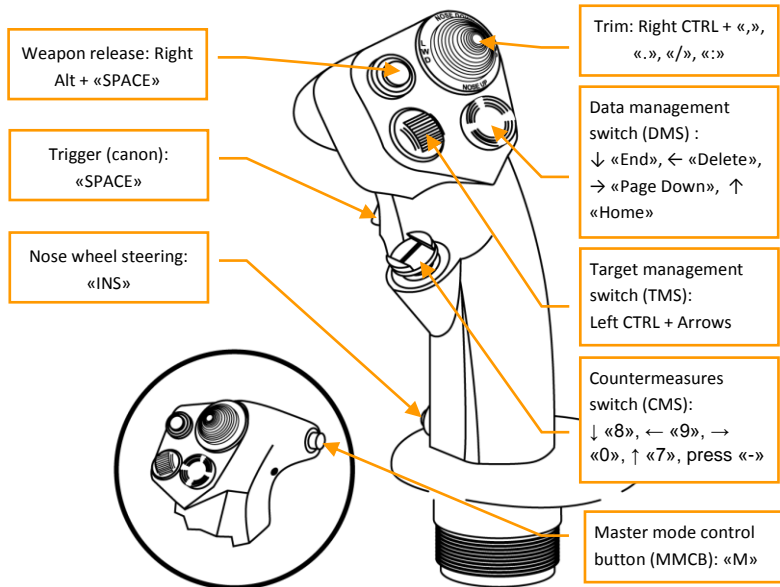
The HUD will indicate the AIM-9 aiming reticle. Targets can be locked under approximately 6-8 miles. Place the reticle over the target by either maneuvering the aircraft toward it or moving the reticle using the SLEW CONTROL switch or "., " ., " /, " .," commands. When a target is locked, the Sidewinder "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.



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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