

DCS BEGINNERS GUIDE



10/17/24
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REFERENCES

Purpose of this Guide

The purpose of this guide is to aid those interested in trying and playing DCS. Within the Hoggit subreddit and other DCS subreddits, similar questions are asked by newcomers often and this guide attempts to answer as many of those questions as possible. I hope my efforts aid those who want to learn this great program and join its wonderful community.

This guide is just the beginning of a beginners journey and I have included resources and links to refer to when you have gained knowledge beyond this guide.

Thank you to the Hoggit community and everyone who gave their feedback and helped make the guide complete.

See you in the skies.

Update Log

AUGUST/SEPTEMBER 2024 - UPDATE

Added new Launcher info and added ShadowReaper server info. Added red box for controllers in multiple spots. Removed Beta/Stable and 50% off information. Added Feet Wet/Dry. Added JF-17 training missions. Added OH-58D Kiowa Warrior. Added DCS Web Viewer link. Fixed various errors.

MAY 2024 - UPDATE

Added F-4E Phantom II to the guide in multiple areas. Added the Kola Map. Added more information on Missions, the Mission Editor and more.

JANUARY 2024 - UPDATE

Added link to WingmanFinder subreddit in multiplayer section.

DECEMBER 2023 - UPDATE

Updated MiG-19 information. Added Mambo and Sukhoi Gaming to the Youtube list. Added further information on multiplayer servers and the addition of Buddyspike Blue Flag 80s. Made minor edits to Controls Setup and Radar section. Added info box to multiplayer.

DCS Files created by Goldwolf

Find below other files online, each is clickable.

[DCS Beginners Guide](#) - This document

[Quick Reference Guide](#)

[DCS Stream Deck Profiles](#)

[A-10C HOTAS](#)

[F-16C HOTAS](#)

Box & color meaning in this guide:



IMPORTANT



QUESTION

OPTIONAL

ADDITIONAL
INFORMATION

EARLY ACCESS

FREE

Patreon

Shoadow

Semisniper117

Jake Kanning

Granite603

SHAKA

PieMuncher

Thank you to the following Patreon supporters:

Derek Speare

DCS Web Editor

Hank Wildcarde

Wander N'Gather

D

John Turner

Ravenleigh

RogueRN

DeltaNerd

Archenuh

AgileNebula

Michael P

Colonel Akir Nakesh

Major TO

Joe Walker

I have started a Patreon page for those who wish to support my work. I have 3 tiers of support and those who support my work will be added to this section as a supporter and thank you.

Check out my [Patreon page](#).



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DISCLAIMER

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The views expressed within this guide are based on my own personal experience and/or those of Hoggit, other persons and/or other communities.

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All illustrations with the exception of some aircraft illustrations were created by Goldwolf. Some aircraft illustrations were also created by Kaboldy.

Aircraft information has been taken from DCS, in DCS aircraft manuals, online (Wikipedia for example), Chuck's guides and the Stormbirds.blog website.

All aircraft photos within the What should I buy section has been taken from the DCS website and are all in-game images. Some aircraft overviews were taken from [here](#). A post on Hoggit without a known user. If you wrote these, please let me know and I'll add your name to the guide. All product images were taken from the internet and are copyrighted to their respective owners.

Some of the text information has been taken from Chuck's guides. Throttle information was taken from [here](#) by Richardus1-1. Radar write up was written by Trematode, which can be found [here](#) and Techneatium. Thank you for the help.

Elements of this guide was taken from the Hoggit DCS World Wiki found [here](#). Also campaign information from the DCSHELIN Guide found [here](#) have been used.



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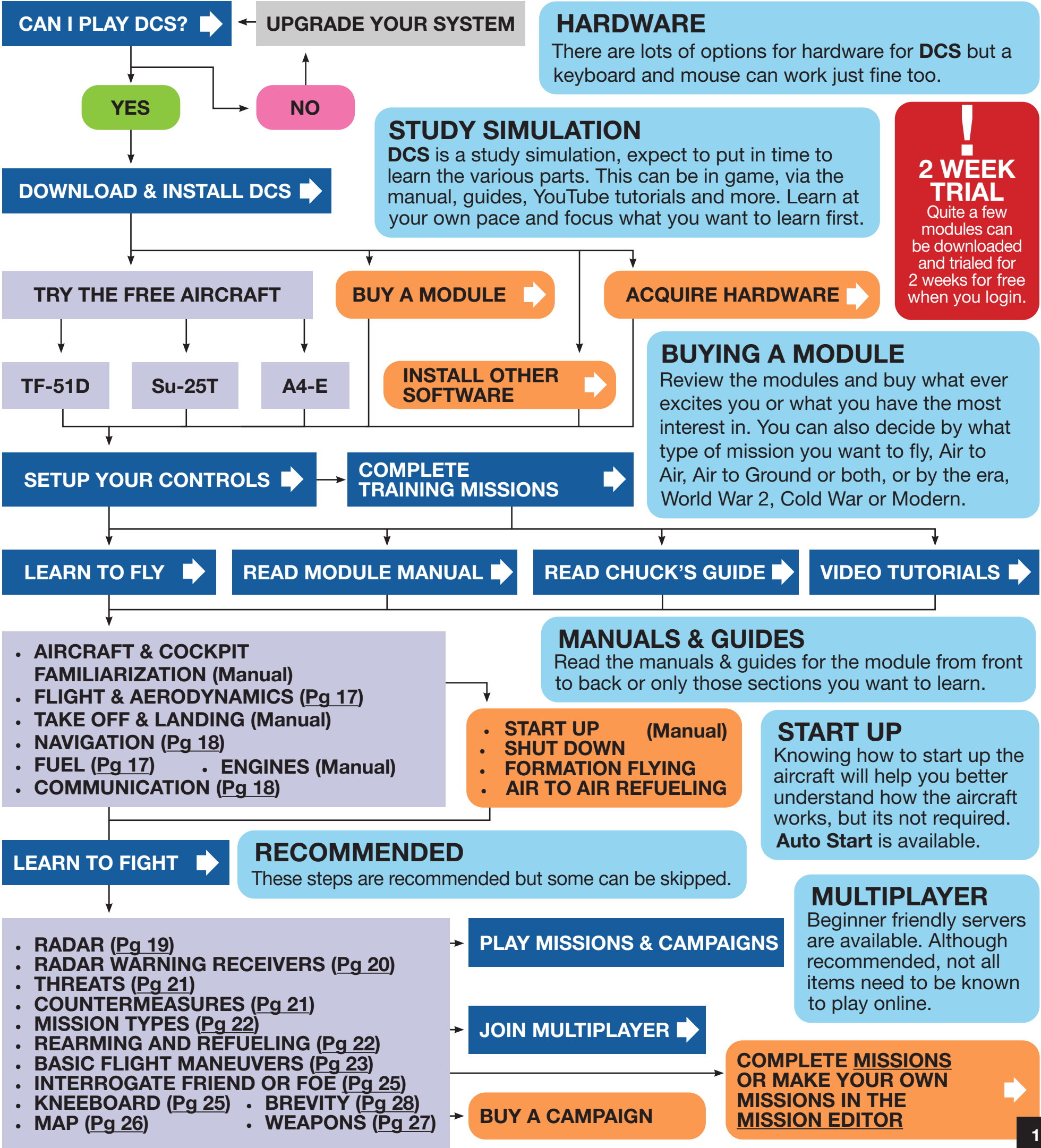
WHERE TO BEGIN

OPTIONAL

➡ - LINKS TO SECTION IN THIS GUIDE

DCS IS AMAZING BUT CAN BE OVERWHELMING AT FIRST

DCS can be very overwhelming especially for anyone new to simulations. When beginning, there are so many unknowns that you might not know where to begin. This page and guide attempts to put together a recommended workflow on what to do and when. I recommend you read this guide from beginning to end and check out the resources, information and links to find what you need. This is the first step into the world of **DCS**!



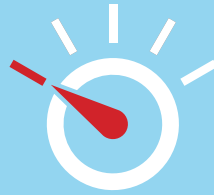
CAN I PLAY DCS?

DCS REQUIREMENTS

These specifications are taken from the **DCS** website. Disk space is the minimum amount required to install **DCS**, with the purchase of any modules or maps, much more space is required. I would personally recommend installing **DCS** on an SSD disk as this will greatly improve loading times. **An internet connection is required.** If you are not sure if **DCS** will run on your system, download it for free and test it. Don't rely on a website like Game Debate to test your system. For **multiplayer**, it is recommended to have **16 GB of RAM** or more for the best experience.

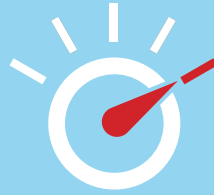
MINIMUM SYSTEM REQUIREMENTS:

CPU: Core i3 @ 2.8 GHz or AMD FX
RAM: 8 GB, 16 GB for heavy missions
OS: OS 64-bit Windows 10 - DirectX 11
VIDEO CARD: GTX 760/AMD R9 280X (4GB minimum)
DISK SPACE: 120 GB (SSD recommended)



RECOMMENDED SYSTEM REQUIREMENTS:

CPU: Core i5+ @ 3+ GHz or AMD FX/Ryzen
RAM: 16 GB, 32 GB for heavy missions or large maps
OS: OS 64-bit Windows 10 - DirectX 11
VIDEO CARD: GTX 1070/AMD RX VEGA 56 with 8GB VRAM or better
DISK SPACE: 120 GB on SSD



RECOMMENDED VR SYSTEM REQUIREMENTS:

CPU: Core i5+ @ 3+ GHz or AMD FX/Ryzen
RAM: 32 GB for heavy missions or large maps
OS: OS 64-bit Windows 10 - DirectX 11
VIDEO CARD: GTX 1080/AMD RX VEGA 64 or better
DISK SPACE: 350 GB on SSD



DCS IS FREE TO TRY
DCS can be downloaded and tested on your system for free. DCS includes two aircraft and two maps to use.



CONTROLLER

You can fly in DCS using only a controller quite comfortably. [Click Here](#) to learn more about using a controller in DCS.



DCS IS FREE

DCS, at its root, is a free software with the option to purchase modules. Modules include aircraft, maps, campaigns and more. Also you have the option to trial any module for 2 weeks. **DCS** provides the following features for free:

- Fly the **TF-51 Mustang** and **Su-25T** attack jet.
- Highly detailed map of the **Caucasus** region.
- Highly detailed map of the **Mariana Islands**.
- 29+ fully-equipped operational airbases and thousands of kilometers of usable roads and railway.
- 156 free and fully operational weapons systems, 105 ground vehicles, 19 ships and 84 AI aircraft.
- **Mission Editor:** Create your own missions and campaigns for unlimited gameplay.

- **Mission generator:** Allowing rapid mission creation.
- Multiplayer to fly with friends.
- Both hardcore realistic and casual game play modes and options available.
- Play hundreds of missions and campaigns with new campaigns continually created.
- Large depository of user created items: missions, campaigns and more.
- Virtual Reality support.

STANDALONE VS. STEAM

DCS is available on **Steam** and on the **DCS** website. The **standalone** option is the better option. The **standalone** version has a **2 week trial** option and discounts throughout the year. You also get **50% off** of your first purchase in the **standalone**. You can transfer purchases from **Steam** to the **standalone** but not vice-versa. As a note, **Steam** can be less expensive depending on your location and currency.

FREE MAPS

The **Caucasus** and **Mariana Islands** maps are free. Other maps need to be purchased.

WHAT TO DO FIRST

DCS INSTALLATION AND SETUP

Download DCS




Download **DCS**. The latest version recommended as it the most up to date and used by most multiplayer servers. Once downloaded, install **DCS** and create a new account. Once installed, open **DCS**.

Open DCS

When you click the icon to open **DCS**, you are now greeted with the following launcher. The icons on the left when rolled over show the menu below. Click the Launch **DCS** on the Home page to start **DCS**.

Try'n'Buy

When you click this icon, you are shown the many different modules available to purchase. Click the **TRY FOR FREE** button at the top to sort modules for trial to try for free.



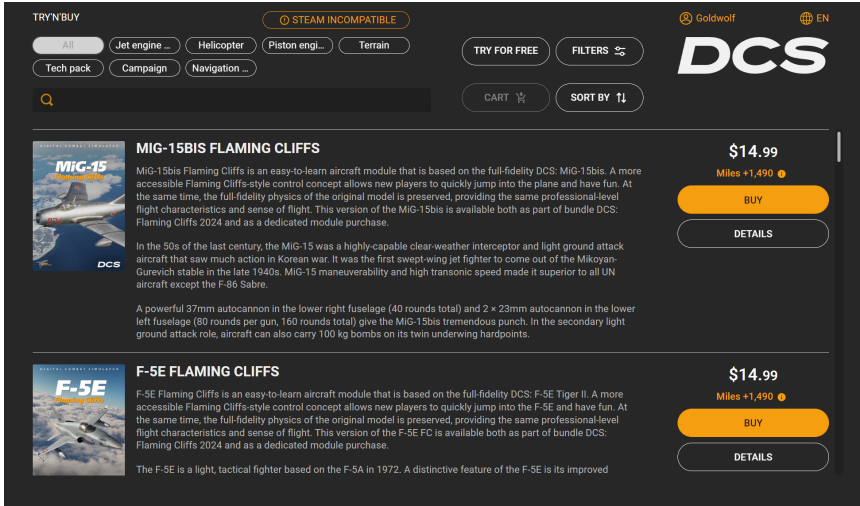
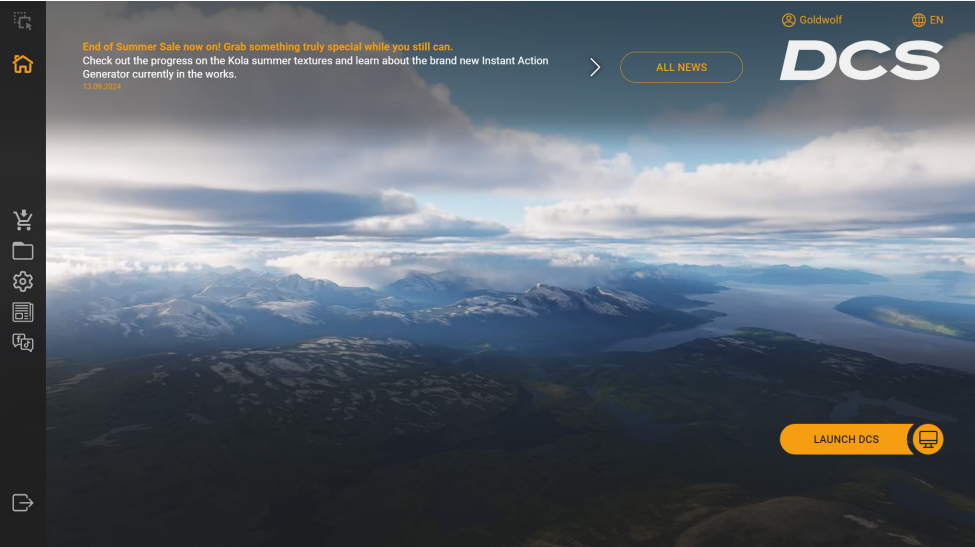
DCS World 2.9

Digital Combat Simulator World (DCS World) 2.9 is a free-to-play digital battlefield game.

Our dream is to offer the most authentic and realistic simulation of military aircraft, tanks, ground vehicles and ships possible. This free download includes a vast mission area of the Caucasus region and Black Sea that encompasses much of Georgia. It also includes a flyable Russian Sukhoi Su-25T ground attack aircraft and the famous WWII North American TF-51D fighter. An additional more than two dozen aircraft are available for purchase.


The download comes with one of the most powerful mission planners ever designed, full network play and more than 156 AI weapons systems, 105 ground vehicles and trains, 50 air defense systems, 19 ships and 84 AI aircraft permitting you to plan and play highly sophisticated missions. DCS World is massively extensible through additional DCS modules as well as user-made add-ons and mods which you can purchase and download from our site.

DOWNLOAD



Files

This shows the various files installed on your system. In here, you can turn on and off modules. You can also **Check for Updates**, **Repair Build** and **Clean Up**.



REPAIR FILES

If you have any problems with DCS, click the Files icon and click Repair Build.

Settings

This shows the various graphical and monitor settings prior to launching **DCS**. You can also set the size of the launcher, turn on and off the launcher and save custom settings.

News

The latest updates from Eagle Dynamics. Ordered from most recent, you can check out the latest developments in DCS. Also you can see the Changelog of DCS updates, each with a link to find out what the changes were specifically.

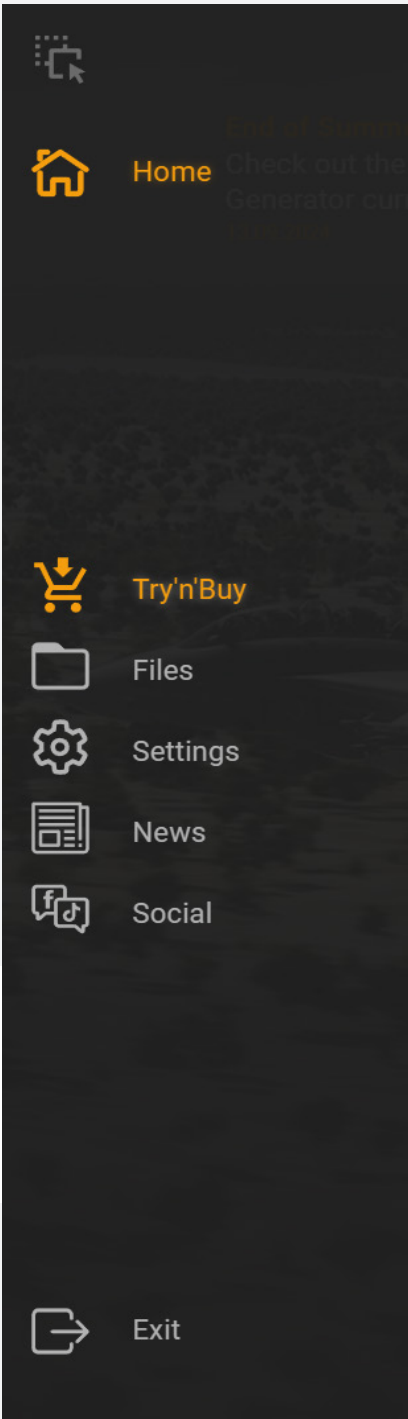
Social

This shows links to Eagle Dynamics social channels. YouTube, X, Facebook, Discord, Instagram and the DCS Forums.

- Move**
Move the launcher window.
- Home**
Return to the opening launcher screen.

- Try'n'Buy**
Click here to purchase or trial modules.
- Files**
Shows current installed **DCS** files.
- Settings**
Edits various settings in **DCS**.
- News**
Latest **DCS** news.
- Social**
Links to **DCS** social platforms.

- Exit**
Quit the **DCS** launcher.



INSIDE DCS

Computer Setup

Once **DCS** is open, click the cog icon at the top left of the screen and update the settings based on your computer system and needs.

Controls Setup

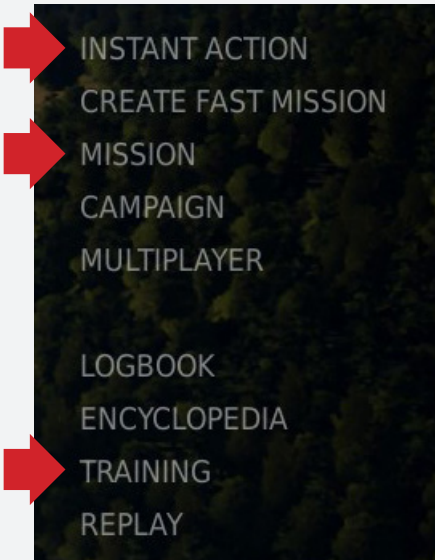
Next within the settings options, click **CONTROLS** and start setting up the module controls. A guide on what controls are recommended can be found in [Chuck's Guides](#).

Instead you could also click **INSTANT ACTION**, **MISSION** or **TRAINING** to start in the aircraft. More about each of these missions is discussed later in this guide.

Once in a mission, press **ESCAPE** and click **Adjust Controls**. In here, **DCS** will automatically choose the current module or if that doesn't work, choose the module from the list.

You can now start assigning buttons and more to specific aircraft functions. For axis movement, like on a Joystick or Throttle, choose the **Axis Commands** from the drop down menu. Double click the area you would like to update and a window will open to allow you to set the assignment. This can be easily accomplished on joysticks and other peripherals by choosing the right column on the right for the peripheral, double clicking the assignment box and then pressing the button or moving the axis. **DCS** will automatically detect the button or axis on the peripheral. This saves a lot of time and you don't need to figure out what button number is associated with each peripheral.

BACKUP CONTROLS
You can find the controls you create in your user files under Saved Games and the DCS folder inside. You can then back them up as needed.



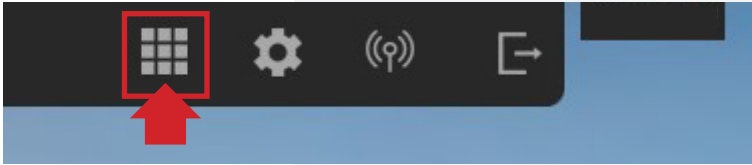
KEYBOARD SHORT CUTS
Across most modules, there are standard keyboard shortcuts. These are usually **G** for gear, **F** for flaps, **Space** for weapon fire etc.

FREE MODULES
Included with **DCS** is the **TF-51 Mustang** and the **SU-25T**. Both include training missions and more. Also available to download for free is the **A-4E Skyhawk**, which can be downloaded [here](#).

MODULES

Buy a Module

CONTROLLER
You can fly in **DCS** using only a controller quite comfortably.

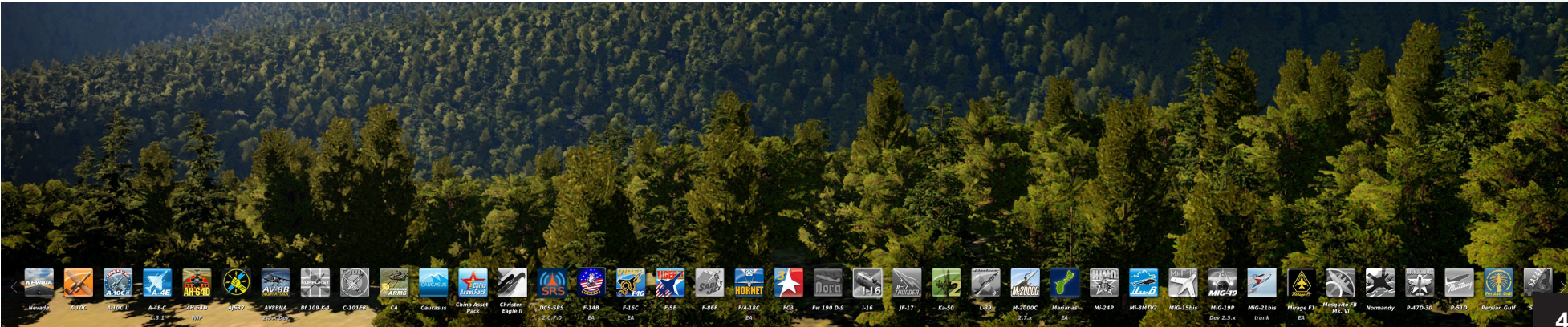


You can either click the squares icon within **DCS** to purchase a module, you can go to the **DCS** website or purchase modules from the Launcher under Try'n'Buy. If you use the **DCS** website, you will need to login and make the purchase. Once complete you will receive an email confirmation. Next open up **DCS**, and click the same squares icon, this time **DCS** will alert you to a new module download. Once **DCS** has downloaded the module, you will be able to use it.

Bottom Icons

The icons along the bottom of the main **DCS** screen are icons of all the modules available to purchase. Depending on the screen resolution, more or less will be shown. Full color icons are ones purchased or available to use, black and White icons have not been purchased.

2 WEEK TRIAL
Quite a few modules including maps can be downloaded and trialed for 2 weeks for free when you login.



WHAT TO DO NEXT



AUTOSTART

All aircraft have the option to autostart. When first starting, using autostart can help but learn to start the module.

TRAINING

Module Training Missions

Almost every module comes with training missions. These guide you through the process of learning the aircraft from start up and taking off, to complex subjects like specific weapon targeting and usage. It is recommended to start here when a module is first purchased.

All modules vary in the amount of training missions available. For example, the **MiG-21** includes **15** specific training missions covering key systems. The **AV-8B** includes **62** training missions covering all sorts of systems and tactics. The **UH-1H** includes only **4** training missions. The more training missions available, generally the easier it is to get up to speed on using the aircraft effectively.

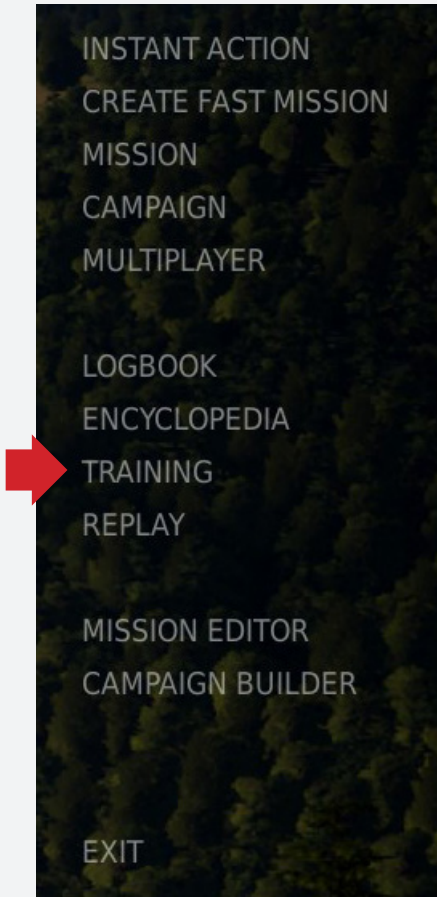
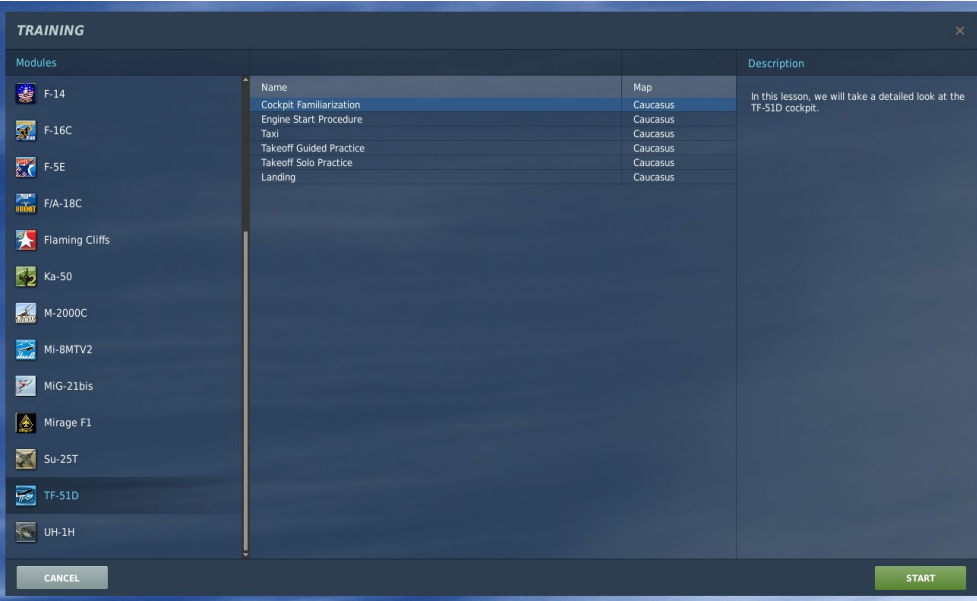
Find below a list of some modules and the number of training missions available:

MODULE	TRAINING MISSIONS
A-10C II WARTHOG	17
AH-64D APACHE	9 (STILL IN EARLY ACCESS)
AJS-37 VIGGEN	11 (STILL IN EARLY ACCESS)
AV-8B HARRIER	62
F-14 A/B TOMCAT	15 (STILL IN EARLY ACCESS)
F-15C EAGLE	LINK
F-15E STRIKE EAGLE	13
F-16CM VIPER	21 (STILL IN EARLY ACCESS)
F-5E TIGER	10
F/A-18C HORNET	24
JF-17 JEFF	10
KA-50 BLACK SHARK	7
M-2000C MIRAGE	10
MI-8 HIP	4
MI-24P HIND	8 (STILL IN EARLY ACCESS)
MIG-29S FULCRUM	10 LOW FIDELITY
MIG-19 FARMER	10
MIG-21 FISHBED	15
MIRAGE F1	7 (STILL IN EARLY ACCESS)
MOSQUITO	7 (STILL IN EARLY ACCESS)
SU-25 FROGFOOT	5 LOW FIDELITY
SU-25T FROGFOOT	15 FREE VERSION
SU-27 FLANKER	14 LOW FIDELITY
SU-33 FLANKER-D	4 LOW FIDELITY
TF-51 MUSTANG	6 FREE VERSION
UH-1H HUEY	4

EARLY ACCESS

Early access are aircraft that are not fully complete and still have some elements missing.

Training Window showing the training available for the TF-51

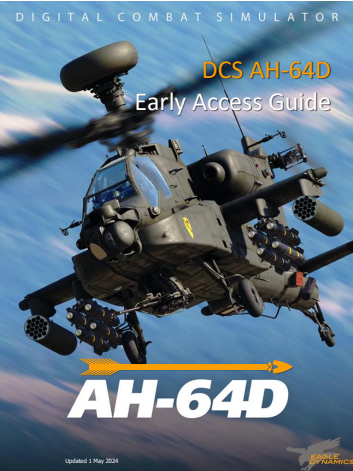
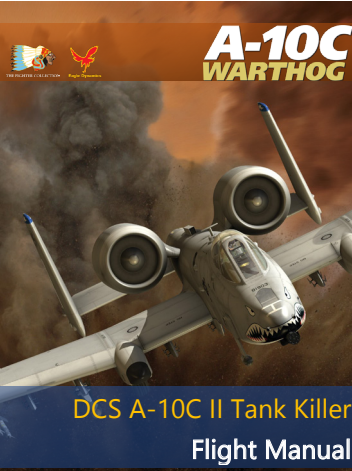
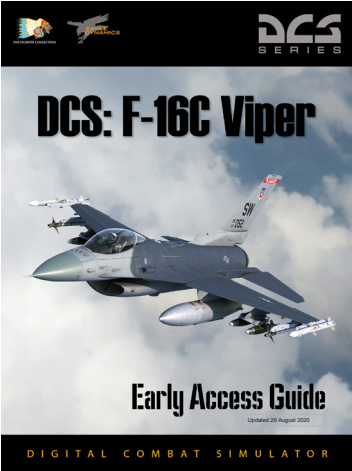


Module Documentation

Like training missions, almost all modules include documentation in PDF format. These can be found in the **DCS** installation folder, like the following:

C:\(Installation folder)\DCS World OpenBeta\Mods\aircraft\(module)\Doc\

Some module document examples:



AI AIRCRAFT
There are 84+ AI aircraft in the mission editor. Even if you don't own a module, the AI version of the aircraft is available to fight against.

CHUCK'S GUIDES

A Valuable Free Resource

Chuck's guides are an extremely valuable and popular resource and highly recommended. **Chuck Owl** provides free PDF documents for almost every aircraft and helicopter in **DCS**.

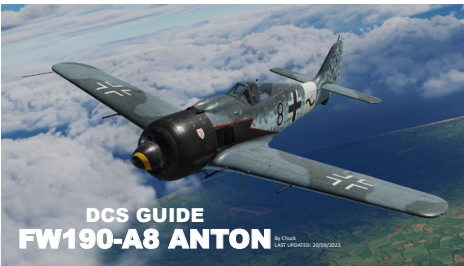
Within each document, Chuck provides key and simple to understand information to help get acclimated to the module. Items covered can include:

- Recommended Control setup
- A review of the entire cockpit
- Start up
- Taxing and take off
- Landing
- All aircraft systems
- Weapons
- Countermeasures
- Navigation
- Air to Air refueling.

Module List - Each image is a link to that aircrafts webpage where you can download the PDF.

DIRECT LINK

Here is the direct link to the [Chuck Guides Website](#). Chuck works hard to provide these guides for no cost, so if you can, support his great work.



YOUTUBE VIDEOS



Eagle Dynamics

The creator of DCS. Eagle Dynamics creates a wide range of videos including many detailed instructional videos on multiple aircraft. Click the logo to the left to go to their YouTube channel.



Matt “Wags” Wagner

Senior Producer for DCS

Wags creates a large range of how-to videos for multiple modules. [LINK](#)

DCS Training (Community created and alphabetical)

Aerges Creator of the Mirage F1	Bogey Dope Popular DCS video creator	Casmotv Real life AH-64D pilot	Deephack DCS tutorials creator	Dr. Jebus Flight sim tutorial creator	Eagle 7 Real life aircraft and helicopter pilot	Enigma Creator of the Cold War Server
Mirage F1	F-16, F/A-18 & more.	AH-64D, F-14 & more.	AV-8B, F-14, KA-50, M-2000C, SA-342 & more.	F-5, F-14, F-86, MiG-19, Enigma War Server & more.	AH-64D, Hardware, Mi-24, SA-342 UH-1H & more.	Enigma War Server, MiG-19, MiG-21, F-5E & more.
LINK	LINK	LINK	LINK	LINK	LINK	LINK

Fast Jet Performance Former RAF jet instructor	Got Space Game DCS in 3 minutes or less.	GVad The Pilot Civilian aircraft pilot	Growling Sidewinder Popular DCS video creator	Laobi Short DCS instructional videos	Mambo DCS enthusiast	The Ops Center Informative retired USAF	Pukin Dog DCS Tutorials and more
Navigation, real world processes & more	AV-8B, F-5, F-16, F/A-18, & more.	AV-8B, MiG-21, Mirage 2000, Mirage F1 & more.	AV-8B, Dogfighting, Hardware, Mi-24P, MiG-21 & more.	A-10C, AJS37, F-5E, F-16C, F-14B, F/A-18C, FW-190 A-8, I-16, Mi-24P, MiG-21, Mirage 2000, P-47D, Spitfire & more.	AH-64D, F-16 and more!	Air combat, BFM, ACM, Defense, Radios & more!	A-4E, AV-8B, A-10C, F-15E, F-16, F/A-18, Warbirds & more.
LINK	LINK	LINK	LINK	LINK	LINK	LINK	LINK

Operator Drewski Popular DCS video creator	Ralfidude Popular DCS video creator	RedKite Quality DCS training creator	Reiver Aviation enthusiast & virtual pilot	Reflected Simulations DCS Campaign Creator	Spudknocker Aviation Historian and DCS enthusiast
A-10, AH-64D, Cold War, AJS37, F-14, F-15, F-16, F/A-18, Su-25 & more.	A-10C, Brevity, Hardware, SU-25T & more.	AV-8B, Campaigns, Hardware, Mirage F1, F-14, F-16CM, F/A-18, Mi-24P, & more.	M-2000C, Mirage F1 and more.	Campaign guide and creation, F-14, Hardware, Mission Editor, Mosquito & more.	AV-8B, F-16CM, F/A-18C, Mi-8, Mi-24P, Mirage 2000, Mirage F1, Weapons & more.
LINK	LINK	LINK	LINK	LINK	LINK

Sukhoi Gaming Tutorial creator & DCS enthusiast	Tactical Pascale Ex RAF Fighter Control Instructor.	Tom P DCS tutorial creator	TorniQuetHD DCS tutorial creator	Tricker Real life Civilian pilot	Volk DCS tutorial creator	vsTerminus Indepth DCS training creator
F-5, MiG 21, Mirage F1, Mirage 2000, Su-27, & more.	AH-64D, AV-8B, F-5E, F/A-18C, F-86, GCI, JF-17, MiG-21, Mosquito, P-51D, Weapons & more.	AH-64D, M-2000C & more	AH-64D, F/A-18, Su-25 and more	AH-64D, AV-8B, F-5E, F-16CM, F/A-18, IFF Guide & more.	Ka-50 Black Shark	AH-64D, AV-8B, SA-342, Mi-8 & more.
LINK	LINK	LINK	LINK	LINK	LINK	LINK

? WANT TO BE ADDED TO THIS GUIDE?
Feel your videos or content should be added to this guide, let me know.

HARDWARE

Find below various hardware options that are available for **DCS**. **DCS** can accommodate many different peripherals. Not all are needed at all but generally the list below is in order of importance. There are many more options available beyond what is shown here.



CONTROLLER

You can fly in **DCS** using only a controller quite comfortably.



A Joystick

It is recommended that **DCS** should be played with a joystick or game controller. **See next section for more on joysticks.**

Product	Cost	Pros	Cons
Extreme 3D Pro	\$	Good start, twist rudder	Few buttons
T.16000M		Decent option and twist rudder. Can last.	Poor internals
X-52*	\$\$	Decent amount of buttons.	
X-55*, X-56*		Many buttons and switches, twist rudder. (Author has the X-56 and it has lasted a long time)	Can be hit or miss
VKB Gladiator NXT		High quality, many buttons, twist rudder	Not many
Warthog	\$\$\$	Popular but there are better options	Expensive
VKB Gunfighter, WinWing or Virpil	\$\$\$\$	High quality, many buttons	

B Headtracking

* comes with throttle

Headtracking will track your head movements in **DCS** so you can freely look around the cockpit and outside while flying without the need to use buttons to look around. **See next section for more on Headtracking.**

Product	Cost	Pros	Cons

C Throttle

There are many on the market and some come with the joystick included. This would be a **Hands On Throttle And Stick** or **HOTAS** setup. **See next section for more on Throttles.**

Product	Cost	Pros	Cons

D Rudder Pedals

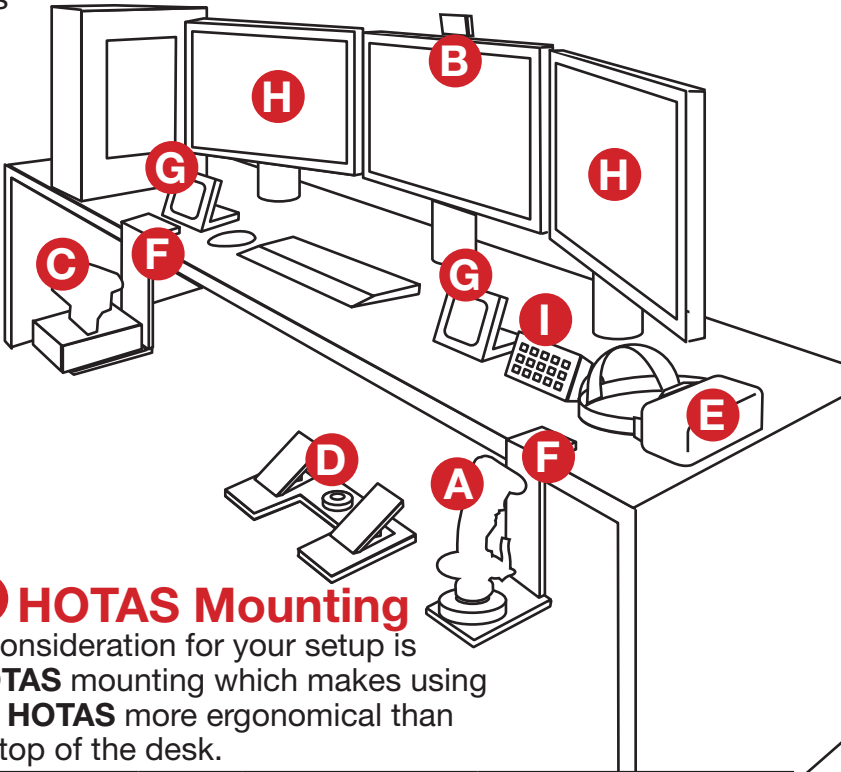
Next would be rudder pedals. Not really needed to get the most out of **DCS** but makes life easier, especially for helicopters where a rudder is used far more extensively.

Name	Cost	Pros	Cons
Thrustmaster TFRP	\$	Entry level option	Poor internals
Logitech Pro Flight, VKB	\$\$	Generally great internals	Expensive
MFG Crosswind, Virpil		High quality and adaptable	
Thrustmaster TPR, SLAW	\$\$\$	Highest quality	Extremely expensive

E VR Headset

A VR headset is an option for **DCS**. If your system can comfortably run VR, it can be a great option and is extremely immersive.

Product	Cost	Pros	Cons



F HOTAS Mounting

A consideration for your setup is **HOTAS** mounting which makes using the **HOTAS** more ergonomic than on top of the desk.

Product	Cost	Pros	Cons

G Accessories

There are many different accessories that work with **DCS**.

Product	Cost	Pros	Cons

* Can be used with a cheap monitor

H Extra Monitors

DCS has the ability to span multiple monitors. This can be great for added immersion if you are not pursuing VR.

I Button Boxes

A possible upgrade is the Button box. There are options to make your own, purchase a pre-made one or buy something like a StreamDeck.

Product	Cost	Pros	Cons

Cost Definition

\$30, \$565
\$ \$ \$ \$ \$ or \$ \$ \$ \$



KEYBOARD AND MOUSE

DCS can be played successfully with just a keyboard and mouse. It will be more difficult but it is possible.

JOYSTICKS

NOTE: These joysticks are the most common, but others are available.

Extreme 3D Pro

A great beginner joystick with 12 programmable buttons, a twist axis for a rudder, another axis at the base and a single hat switch. Limited buttons, made of light plastic and no easy option to mount the joystick, make this joystick good beginner option for the price but will become severely lacking very quickly.



T.16000M

This joystick includes 16 programmable buttons, a twist axis for a rudder, another axis at the base and a single hat switch. Fully plastic, overall poor internals and no easy mounting option, make this a better beginner option, but will be quickly lacking. A bit more expensive than the Extreme 3D Pro but still reasonable.



Saitek/Logitech X52

Sold with the throttle, the joystick has 9 programmable buttons and 2 hat switches. Option to mount it is also available. Fully plastic with some hit and miss on the internals, this joystick along with the throttle is a significant price increase over those previous.



Saitek/Logitech X55/X56

Neither is sold separately, the X-55 and X-56(blue) have a lot more buttons than previous joysticks. 6 programmable buttons, 3 hat switches (4 on the X-55), a mini-stick on the X-56 and a twist axis. A much larger stick than earlier models with the option to mount it. Fully plastic with some hit and miss on the internals, this joystick along with the throttle is a significant price increase over those previous but does not lack in inputs at all. This stick also includes programmable LED lighting.



VKB Gladiator

A great, well made joystick with decent internals. Available with multiple options, this joystick has 12 programmable buttons, 3 hat switches, a mini-stick or fourth hat switch, a twist axis, 3 additional axis in the base and a dual stage trigger. Decently priced, expandable, mountable with few negatives. Also includes programmable LED lighting.

A highly recommended stick and reasonably priced.



Warthog

A popular joystick with metal externals and some what decent internals. Based on the real life A-10C joystick (also used in the F-16C), this stick has 6 programmable buttons, 4 hat switches and a dual stage trigger. The stick offers multiple mounting options with a solid metal base. Much more expensive than previous sticks and can be viewed as a solid option, however there are better sticks on the market now.



VKB Gunfighter

This full metal ergonomic joystick has a lot to offer for a higher price. 12 programmable buttons, 5 hat switches, a mini-stick, dual stage trigger, folding trigger, twist axis (as an option), an extra axis and more. Extremely well made with great internals and many mounting options. This joystick has everything needed and more for any aircraft. An expensive stick but one of the best available and will last a long time. VKB also offers other sticks that can attach to the base.



WinWing

A full metal ergonomic joystick with a true to life layout. Based on the F/A-18 stick, this includes 8 programmable buttons, 4 hat switches and a dual stage trigger. Very well built with great internals and multiple mounting options. A great option if the price is accessible. WinWing also offers add ons and different sticks that can attach to the base. Be careful with ordering one though as they are shipped directly from China which can result in long shipping times and high shipping costs, customs, import tax, etc but not always. WinWing also offers grip alternatives as well.

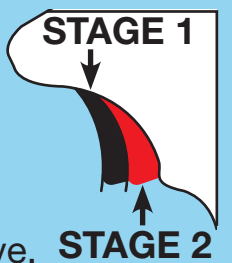
Virpil

A very high quality stick. Multiple stick options, full metal construction and great internals. Depending on the model of stick, most have lots of buttons, hat switches, everything ever needed for a stick. Expensive but will last forever. Virpil also offers other grip options.



DUAL STAGE TRIGGER

A common feature on real fighter aircraft, a dual stage trigger is a trigger that has two separate stages, one for the initial partial press and a second for full press down of the trigger. It is not a requirement but a nice to have.



POWERED USB

On occasion and depending on the peripheral being used and if you have any other USB peripherals attached, it might be needed to use a powered USB hub rather than connecting directly to your computer.

HAT SWITCH

A hat switch is made up of four buttons arranged in a cross, up, down, left and right. Some also include a press down button.



HEADTRACKING

Headtracking tracks your head turn and position and translates that into movements in the cockpit of the aircraft. You can also tune the turn so that a slight turn of a head can move the camera significantly in **DCS**. For example, a small turn of the head to the right or left could swing the camera to look behind the aircraft. If VR is not an option for you, headtracking is highly recommended for much better situational awareness while flying. If you intend to use VR instead, there is no need for headtracking. **There are now options for using a webcam to track.**



DIY:

It is quite possible to make a headtracking setup with various parts. More complicated than purchasing an option below but cheaper. Find to the left a link to a website that covers building a headtracker and on the right, another website with a video link.

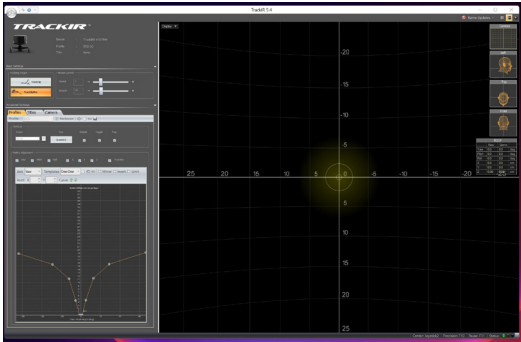
To track your head, you need a camera to see your head, a way to track the heads position and software to interpret the information in a way that **DCS** can use. The camera can be a mobile phone, a web camera or a custom IR camera. The head position tracking is often completed with IR lights but some options use face information. Finally, software needs to be used that connects with **DCS**. Another possible option is using an Aruco marker for headtracking. Here is a [link](#) to a video on using this method.



CAMERA (TRACK IR)



IR LIGHTS (GRASS MONKEY)



SOFTWARE (TRACKIR 5)

LOW COST

LINKS Titles and images below are links to their respective website.

AITrack

AITrack is a tool exclusively to track your face and send that data via UDP to another program. The face tracking algorithm is very good, but tends to be more jumpy. Unfortunately, like ViewTracker, it consumes a lot of CPU... and a 2nd program is still needed to do the rest of the work.



OpenTrack

OpenTrack has plenty of input sources which include Oculus, Valve VR, IR Cameras, Point trackers and an Aruco Paper Tracker! OpenTrack now includes its own AI headtracker.

Smoothtrack

Like AITrack, Smoothtrack will track your face and send that data via UDP. Smoothtrack uses your mobile devices camera from tracking. The cost of Smoothtrack is \$12.99 USD.



ViewTracker

ViewTracker, although not free, is quite affordable at around \$12 USD, but there is a free 7-day trial to make sure it works for you. The head tracking is very good, but has the big disadvantage of very high CPU usage, which could impact **DCS**.

MID COST



AimXY

A higher cost at \$153 USD this option provides everything you need with a custom camera and system.



DELANCLIP

Declanclip

Using a modified PS3 Camera, Declanclip is a tracking system for a reasonable price (around \$68 USD). This includes all hardware needed to setup tracking. The base model uses a wire to the IR lights on your head, for extra, you can purchase a wireless one with a rechargeable battery.



Grass Monkey

Similar to Declanclip in some ways, Grass Monkey sells all of the hardware needed for head tracking. A bit more expensive starting at \$80 USD, Grass Monkey provides its own camera rather than a PS3 one. All provided IR lights are battery operated with no need for wires.

HIGH COST



TrackHat

Similar to the Mid Cost options, TrackHat provides all of the necessary items for head tracking. At a higher cost than previous options at around \$110 USD, TrackHat provides many different options for the IR lights, including a unique hat with the lights attached (both wired and wireless). These items are recommended to be used with OpenTrack.



TrackIR

The most expensive option for headtracking at around \$150 USD, but the easiest to use. Comes with a high quality IR camera and various IR light options, including a hat clip or wired. You can also purchase IR lights from a different vendor that works well. TrackIR also provides great software that can be used by some of the other options shown here.



Tobii Eye Tracker

The most expensive option at over \$250 USD, this tracking device is capable of tracking both head and eye movements for **DCS** interaction. A unique piece of hardware in a bar format, unlike the other options, and comes with its own software. A high quality product that is compatible with other games besides **DCS** but very expensive.

HIGHLY RECOMMENDED BUT NOT NECESSARY

Headtracking is highly recommended for **DCS** but is not 100% necessary. A hat switch on the joystick or keyboard buttons can be used instead to look around when flying but this will limit your situational awareness especially in multiplayer.

VR GUIDE

Check out this [website](#) for a beginners guide to using VR with **DCS**.

THROTTLES

Asian Games Throttle

Sold under Titanwolf, Flashfire, PXN, FR-Tec and other rebranding companies. It's made in china, it's cheap and it kinda sucks. Little more than a cheaped-down Saitek X52 throttle with all the "excess" features cut out and replaced with cheap buttons.



COLLECTIVES

Although not in this guide, there are helicopter collectives available from various vendors including VIRPIL.



Thrustmaster TWCS

Cheap, quite a few inputs. Requires a slider mod or a little dab of Nyogel to smooth out the sliding movement. Good for the price, but not indestructible, the rudder flapper thing is known to give out over time due to cheap potentiometer. Can be sold paired with the T.16000M.

VKB SEM

More of a buttons box than a real **HOTAS**, but you do get two axis controllers. May or may not be sufficient, but VKB has outstanding build quality so it's worth at least a look.



VKB THQ

A throttle quadrant. Decently put together and you can modify it a bit, but the inputs are all on the base instead of the throttles, so not a true **HOTAS**.



Saitek/Logitech X-52

Not for sale separately, but you may be able to find one secondhand. Little thumb mouse pointer isn't much use and the two detents are awkward, but overall the throttle is at least usable. The Pro version has a few extra inputs on the base. The dials are known to develop jitter.



Saitek/Logitech X55/X56

Neither is sold separately, may be found secondhand. The X-55 is the earliest version with a mouse pointer and reliability issues, the BLUE X-56 received a usable slow minystick, the GRAY X-56 is the Logitech production with internal improvements. Plenty of inputs for just about any scenario, but the dials tend to develop jitter and ghosting issues are common without a powered USB hub. Joystick has twist axis for a rudder.

Thrustmaster Warthog

A mid-range throttle with metal externals and not a whole lot more. The slow cursor has been updated so there is no longer a need to upgrade that component. Internal quality is not the best. If found for cheap it may be worth it, but new prices tend to be high due to shortages.



Winwing Orion

F/A-18 Hornet replica. Mostly equal to the Warthog in terms of inputs and external build quality, but internally it is a big improvement. Like the stick, be careful with ordering one though as they are shipped directly from China which can result in long shipping times and high shipping costs, customs, import tax, etc but not always. WinWing also offers other throttles.

VKB ST>ECS

Newly released, VKB offers a modular throttle with a lot of features and upgrade options. There are four base options with a lot a buttons, custom detents, multiple addons and much more.



Virpil Mongoose CM3

All hail the king, pretty much the top of the throttle food chain. Solid, loads of inputs, designed and built by people who care about their product, but the price definitely matches the status. On the other hand it is a case of "buy once, cry once". Virpil also offers other throttle options.



HOTAS

An acronym of **H**ands **O**n **T**hrottle-**A**nd-**S**tick, is the concept of placing buttons and switches on the throttle lever and flight control stick in an aircraft's cockpit. By adopting such an arrangement, pilots are capable of performing all vital functions as well as flying the aircraft without having to remove their hands from the controls.



Thrustmaster Warthog shown to the right.

INPUT GHOSTING

If you find that inputs on your peripheral are randomly being pressed, it might be because of the USB port the peripheral is plugged into. It might need a powered USB, a USB 3.0 or a USB 2.0. Try different ports to see if the problem stops.

HELPFUL PROGRAMS AND DOCUMENTS

Find below other programs that can help improve your experience in **DCS**.

Simple Radio Standalone (SRS)



Simple Radio Standalone (SRS) is a **free** communications program for **DCS** that ties into the in-game radios and allows realistic multiplayer voice communications using the frequencies and capabilities of the radios in whichever aircraft you are currently using.

It works with multiple radios so, for example, in a large multiplayer flight you and your wingmen can use one radio frequency for yourselves for intra flight communication, and tune another to a frequency that all players are connected to so you can effectively communicate across a large number of players without stepping on one another.

If you plan on playing on multiplayer servers, it is recommended to download and install the **Simple Radio Standalone (SRS)** program. Some servers will even **not** allow you to join if you do not have **SRS** installed.

TacView



TacView is a universal flight analysis tool for **DCS**. TacView once installed records flight information from **DCS** that can be opened in **TacView** and reviewed. This can be helpful to see what happened during a mission. Many Multiplayer servers also use **TacView**. **TacView** is free to download and use, with the option to buy a license to access more advanced features. **Click the icon above to go to the website.**

VoiceAttack & Vaicom Pro



With a free trial version, this program allows you to control **DCS** and other programs with your voice. Used with **VAICOM PRO**, a specific **DCS** voice communications plugin for **VoiceAttack**, this system, once setup, will allow almost any action to be completed via voice. This includes any radio call outs, rearming and more without the need to press a button. All that is needed is set the mic push-to-talk button and state the request. **VAICOM PRO** is now free to download. Both websites have guides on how to setup the software. **VoiceAttack** is not free for full functionality. **VoiceAttack** is \$10.00 USD.

OpenKneeboard



OpenKneeboard is a free program that shows reference information and gives the ability to take notes in games - especially flight simulators - including in VR. Taking notes requires a wintab-compatible graphics tablet.

Click the images to the right to download.

Tech's Checks

These free guides offer kneeboard style check lists for various aircraft and processes. The latest is the F-16C check list covering start up, weapon delivery and more. The F-14 A/B Tomcat check list includes start up, take off, landing, flight systems, radar and much more. Currently there are check lists from the F-14 A/B Tomcat, AH-64D Apache and the F/A-18C. Check out this great resource.

Click the images to the right to download.

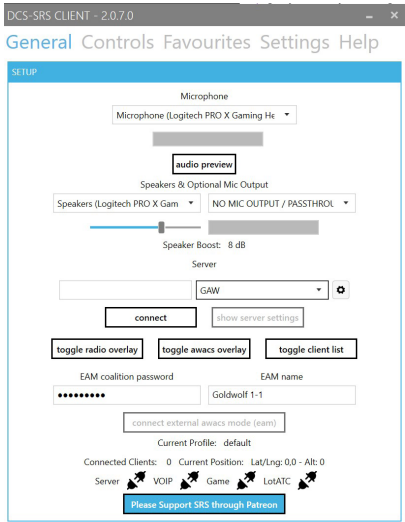
DCS Quick Reference Guide

This free guide offers a comprehensive reference to **DCS**. As well as a PDF, kneeboard images are included. Within the guide is information about:

- **Weapons** - All types, variants, aircraft usage, weapon purpose, range, guidance and more.
- **Defensive Systems** - RWR guide, threats, threat ranges and more.
- **Aircraft/Helicopters** (not including **Warbirds**) - Weights, landing and take off speeds, maximum speed, maximum range, radar range (if applicable) and every weapon available to the aircraft and more.
- **Maps** - Airfields, radio frequencies, location, runway direction and more.

Click the images to the right to download.

MOST OF THESE ARE FREE



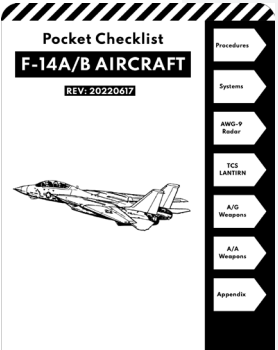
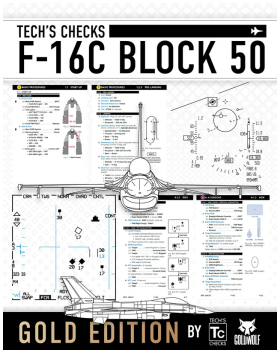
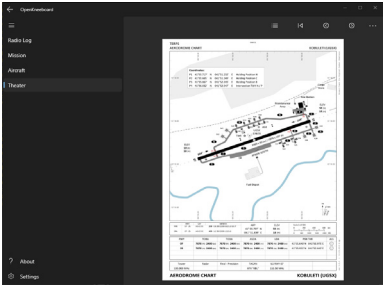
SRS IS NEEDED












SRS is needed to login to some multiplayer servers. While some servers do not need **SRS**, it is a recommended program to use when playing **DCS** multiplayer.



TACVIEW IMPACT

In some instances, **TacView** can cause some system issues especially in very busy scenarios.



AIR TO AIR WEAPONS							
WEAPON	TYPE	IMAGE	NAME	RANGE			
AIM-7	INFRARED		SPARROW	MEDIUM			
AIM-9	INFRARED		SIDEWINDER	SHORT			
AIM-120	ACTIVE		AMRAAM	MEDIUM			
AIM-177	ACTIVE		PHOENIX	LONG			
AIM-260	ACTIVE		AMRAAM	MEDIUM			
AIM-260C	ACTIVE		AMRAAM	MEDIUM			
AIM-260D	ACTIVE		AMRAAM	MEDIUM			
AIM-260E	ACTIVE		AMRAAM	MEDIUM			
AIM-260F	ACTIVE		AMRAAM	MEDIUM			
AIM-260G	ACTIVE		AMRAAM	MEDIUM			
AIM-260H	ACTIVE		AMRAAM	MEDIUM			
AIM-260I	ACTIVE		AMRAAM	MEDIUM			
AIM-260J	ACTIVE		AMRAAM	MEDIUM			
AIM-260K	ACTIVE		AMRAAM	MEDIUM			
AIM-260L	ACTIVE		AMRAAM	MEDIUM			
AIM-260M	ACTIVE		AMRAAM	MEDIUM			
AIM-260N	ACTIVE		AMRAAM	MEDIUM			
AIM-260O	ACTIVE		AMRAAM	MEDIUM			
AIM-260P	ACTIVE		AMRAAM	MEDIUM			
AIM-260Q	ACTIVE		AMRAAM	MEDIUM			
AIM-260R	ACTIVE		AMRAAM	MEDIUM			
AIM-260S	ACTIVE		AMRAAM	MEDIUM			
AIM-260T	ACTIVE		AMRAAM	MEDIUM			
AIM-260U	ACTIVE		AMRAAM	MEDIUM			
AIM-260V	ACTIVE		AMRAAM	MEDIUM			
AIM-260W	ACTIVE		AMRAAM	MEDIUM			
AIM-260X	ACTIVE		AMRAAM	MEDIUM			
AIM-260Y	ACTIVE		AMRAAM	MEDIUM			
AIM-260Z	ACTIVE		AMRAAM	MEDIUM			
AIM-260AA	ACTIVE		AMRAAM	MEDIUM			
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AIM-260AU	ACTIVE		AMRAAM	MEDIUM			
AIM-260AV	ACTIVE		AMRAAM	MEDIUM			
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AIM-260BJ	ACTIVE		AMRAAM	MEDIUM			
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AIM-260BQ	ACTIVE		AMRAAM	MEDIUM			
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AIM-260BS	ACTIVE		AMRAAM	MEDIUM			
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AIM-260BX	ACTIVE		AMRAAM	MEDIUM			
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AIM-260CF	ACTIVE		AMRAAM	MEDIUM			
AIM-260CG	ACTIVE		AMRAAM	MEDIUM			
AIM-260CH	ACTIVE		AMRAAM	MEDIUM			
AIM-260CI	ACTIVE		AMRAAM	MEDIUM			
AIM-260CJ	ACTIVE		AMRAAM	MEDIUM			
AIM-260CK	ACTIVE		AMRAAM	MEDIUM			
AIM-260CL	ACTIVE		AMRAAM	MEDIUM			
AIM-260CM	ACTIVE		AMRAAM	MEDIUM			
AIM-260CN	ACTIVE		AMRAAM	MEDIUM			
AIM-260CO	ACTIVE		AMRAAM	MEDIUM			
AIM-260CP	ACTIVE		AMRAAM	MEDIUM			
AIM-260CQ	ACTIVE		AMRAAM	MEDIUM			
AIM-260CR	ACTIVE		AMRAAM	MEDIUM			
AIM-260CS	ACTIVE		AMRAAM	MEDIUM			
AIM-260CT	ACTIVE		AMRAAM	MEDIUM			
AIM-260CU	ACTIVE		AMRAAM	MEDIUM			
AIM-260CV	ACTIVE		AMRAAM	MEDIUM			
AIM-260CW	ACTIVE		AMRAAM	MEDIUM			
AIM-260CX	ACTIVE		AMRAAM	MEDIUM			
AIM-260CY	ACTIVE		AMRAAM	MEDIUM			
AIM-260CZ	ACTIVE		AMRAAM	MEDIUM			
AIM-260DA	ACTIVE		AMRAAM	MEDIUM			
AIM-260DB	ACTIVE		AMRAAM	MEDIUM			
AIM-260DC	ACTIVE		AMRAAM	MEDIUM			
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AIM-260DS	ACTIVE		AMRAAM	MEDIUM			
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AIM-260DU	ACTIVE		AMRAAM	MEDIUM			
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AIM-260EP	ACTIVE		AMRAAM	MEDIUM			
AIM-260EQ	ACTIVE		AMRAAM	MEDIUM			
AIM-260ER	ACTIVE		AMRAAM	MEDIUM			
AIM-260ES	ACTIVE		AMRAAM	MEDIUM			
AIM-260ET	ACTIVE		AMRAAM	MEDIUM			
AIM-260EU	ACTIVE		AMRAAM	MEDIUM			
AIM-260EV	ACTIVE		AMRAAM	MEDIUM			
AIM-260EW	ACTIVE		AMRAAM	MEDIUM			
AIM-260EX	ACTIVE		AMRAAM	MEDIUM			
AIM-260EY	ACTIVE		AMRAAM	MEDIUM			
AIM-260EZ	ACTIVE		AMRAAM	MEDIUM			
AIM-260FA	ACTIVE		AMRAAM	MEDIUM			
AIM-260FB	ACTIVE		AMRAAM	MEDIUM			
AIM-260FC	ACTIVE		AMRAAM	MEDIUM			
AIM-260FD	ACTIVE		AMRAAM				

HELPFUL PROGRAMS AND LINKS

HELIOS



Helios is a virtual cockpit simulator system for aircraft in **DCS**. With Helios, you can create virtual cockpits, which allow you to increase your immersion in your favourite combat aircraft. Helios profiles can be created to allow you to simulate switches, knobs, gauges and more complex instruments which can then be mapped into **DCS** to give you a much improved combat pilot experience. Many people use a touch screen monitor with their virtual cockpits. It is also possible to run the Helios cockpit on a remote PC.

IKARUS



Like Helios, Ikarus is a solution for virtual cockpits for **DCS**. Ikarus can display many gauges of the **DCS** aircrafts and helicopters. With the help of the ExportScript, data can be displayed on monitors including gauges. Easily customizable for modules, so that you can show only the information you want. Unfortunately, while this works great, it has not been updated in some time and so some newer modules are not available.

Kneeboard Builder



Quickly and easily convert all kinds of .pdf files to kneeboard images. Converted images are grouped into folders, allowing for effortless swapping between kneeboards. The website has extensive tutorials on getting up and running.

BriefingRoom



BriefingRoom allows you to create complete scenarios in just a few clicks. While BriefingRoom is designed to be easy to use and to allow the creation of missions in mere seconds, it is also heavily moddable and will give many options to power users ready to tackle with its most advanced features.

ONLINE RESOURCES

DCS User Files



DCS has a lot of user created files available for free to download. These include documents, missions, campaigns, mods, skins and much more. With an easy to use search, you can find items for specific modules and more. Check out the link to the left.

DCS Documentation



Here you can find the manuals for most **DCS** modules. A great option if you want to learn about a module before purchasing.



HOGGIT Wiki



A great website for beginners, covering many topics associated with **DCS** including items in this guide. Highly recommended.

HOGGIT Subreddit



A great location on Reddit to find out more about **DCS**, ask questions and more. Most people are friendly and will offer advice and more.

DCSWorld.pro



A great website that allows you to see liveries, loadouts, weapons and more.

DCSWORLD Subreddit



Another great location on Reddit to find out more about **DCS**. Like HOGGIT, you can ask questions and more. Most people are friendly and will offer advice and more.

TACTICAL DCS COMMUNITY



A great resource for **DCS**. An active community website with training, free courses and lectures, kneeboards, liveries and much more.

DCS Web Viewer



Another great online resource for DCS. A map editor and reviewer covering every map available. Airport information, map editing capabilities and more are featured.

DISCORD

Another great resource are the many Discord servers online where you can again ask questions and find out more.



DCS World by Eagle Dynamics



HOGGIT Discord



MANY RESOURCES

There are many websites and Discord servers on **DCS**. The ones on this page are a great starting point.

WHAT SHOULD I BUY?

YOUR FIRST AIRCRAFT

This section splits aircraft into different types and eras but ultimately pick the one that excites or interests you.

CHOOSING YOUR FIRST MODULE

DCS provides the **SU-25T Frogfoot** and the **TF-51 Mustang** for free. The **TF-51 Mustang** provided does not include any weapons however. The **A-4E** is an externally created free module that can be downloaded. After you register with **DCS**, you have the option of trying most aircraft and maps for free for two weeks. Use this time to try out any of the modules to see what you like.

Next find charts to help you choose based on the role or the era. As a note, **low fidelity aircraft** do not have fully clickable cockpits and simplified flight systems. All other aircraft are fully clickable and have complex flight systems.









ROLE  **LOW FIDELITY AIRCRAFT**  **FREE AIRCRAFT**  **EARLY ACCESS**

AIRCRAFT

SIMPLE AIR TO AIR & AIR TO GROUND

 **F-86F SABRE**  **MiG-15 FAGOT**  **MiG-19 FARMER**

AIR TO AIR AIR TO GROUND LIMITED

 **F-5E TIGER II**  **MiG-21 FISHBED**
 **F-14 A/B TOMCAT**  **MiG-29 FULCRUM**
 **M-2000C MIRAGE**  **SU-27 FLANKER**
 **MIRAGE F1**  **SU-33 FLANKER**









TRAINER

 **CHRISTEN EAGLE II**
 **MB-339**  **YAK-52**






AIR TO AIR ONLY

 **F-15C EAGLE**









AIR TO GROUND AIR TO AIR LIMITED

 **A-10A WARTHOG**  **AJS-37 VIGGEN**  **L-39ZA ALBATROS**
 **A-10C II WARTHOG**  **AV-8B HARRIER**  **SU-25 FROGFOOT**
 **A-4E SKYHAWK**  **C-101C AVIOJET**

MULTIROLE

 **F-4E PHANTOM II**
 **F-16CM VIPER**
 **F/A-18C HORNET**
 **JF-17 THUNDER**
 **F-15E EAGLE**

WARBIRDS WW2

 **BF-109**  **MOSQUITO**
 **FW-190 A-8**  **P-51 MUSTANG**
 **FW-190 D-9**  **SPITFIRE**
 **I-16**  **P-47 THUNDERBOLT**

HELICOPTER

AIR TO GROUND

 **AH-64D APACHE**


AIR TO AIR & GROUND

 **KA-50 BLACK SHARK**  **SA-342 GAZELLE**
 **OH-58D KIOWA**

AIR TO GROUND & TRANSPORT

 **MI-8 HIP**  **UH-1H HUEY**

AIR TO AIR, AIR TO GROUND & TRANSPORT

 **MI-24 HIND**

EARLY ACCESS

Aircraft that have not been fully released. Further information is on **page 14**.

SIMPLE

Aircraft with relatively simple weapons in both air to air and air to ground.

AIR TO AIR

Aircraft ideally suited for attacking other aircraft.




AIR TO GROUND

Aircraft ideally suited for attacking ground targets.

TRAINERS

Although placed under air to ground, the C-101C and L-39ZA are also trainer jets.

COUNTRY OF ORIGIN

 **CZECH**  **FRENCH**  **GERMANY**
 **ITALY**  **PAKISTAN**  **SPANISH**
 **SWEDEN**  **SOVIET UNION/RUSSIA**
 **UK**  **US**

AIR TO GROUND LIMITED

Aircraft that generally have access to basic air to ground weapons such as bombs, rockets and simple missiles.

AIR TO AIR LIMITED

Aircraft that have access to limited air to air weapons, usually close range Infrared missiles such as the **AIM-9 Sidewinder** or the **R-73 Archer**.

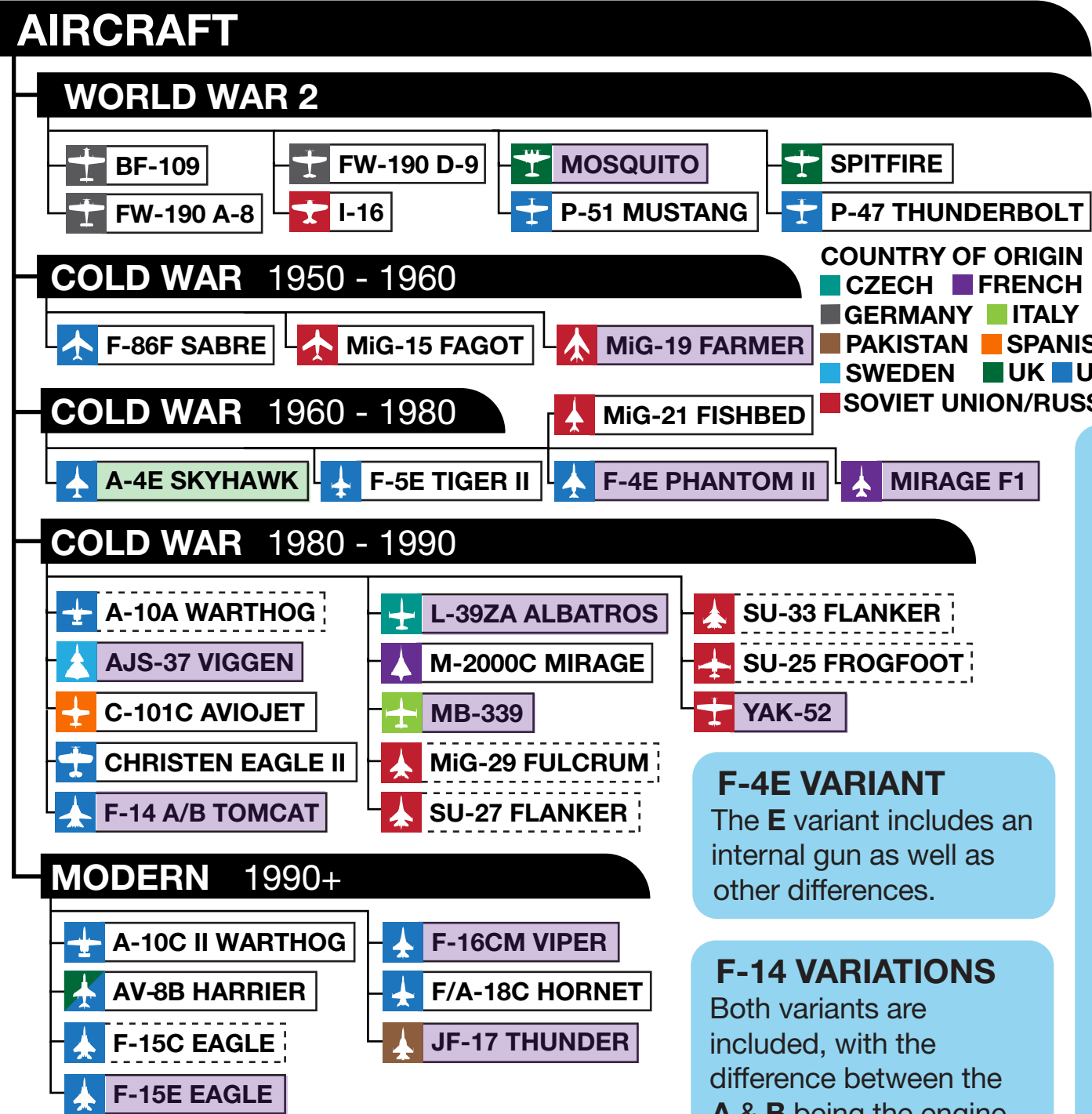
MULTIROLE

Aircraft that have access to a full suite of air to air and air to ground weapon including advanced smart weapons. Generally speaking, these are more modern aircraft.

WARBIRDS

Aircraft that were flown in World War 2. These aircraft primarily use guns, bombs and rockets.

2 WEEK TRIAL Most modules including maps can be downloaded and trialed for 2 weeks for free when you login.



COUNTRY OF ORIGIN

🇨🇪

CZECH

🇫🇷

FRENCH

🇩🇪

GERMANY

🇮🇹

ITALY

🇵🇰

PAKISTAN

🇪🇸

SPANISH

🇸🇪

SWEDEN

🇬🇧

UK

🇺🇸

US

🇷🇺

SOVIET UNION/RUSSIA

FW-190

There are two versions of the Focke-Wulf-190, each with its own characteristics.

COLD WAR 1950 - 1960

These aircraft are the first generation of jets and saw heavy combat in Korea and Vietnam wars. These jet aircraft utilize simple weapon systems.

COLD WAR 1960 - 1990

These aircraft are the more advanced and utilize more complex weapons, flight systems and radars (if applicable). Aircraft in this section could technically fall into a later era depending on weapons.

F-4E VARIANT

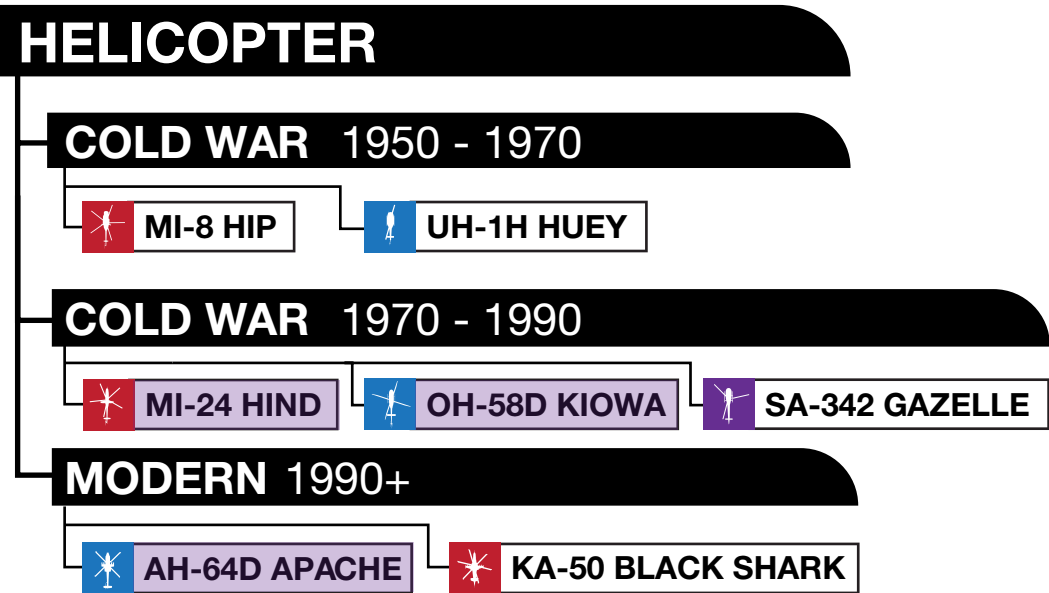
The **E** variant includes an internal gun as well as other differences.

F-14 VARIATIONS

Both variants are included, with the difference between the **A** & **B** being the engine.

A-10 VARIATIONS

The **A** version is low fidelity and limited in weapon systems. The **C II** version is the most modern with a helmet mounted cueing system (HMCS) and laser guided rockets & more. The original **C** version has been removed as it is no longer available to purchase.



!

DCS SALE EVENTS

Eagle Dynamics has multiple sale events throughout the year. Often modules, maps and campaigns are 20% to 50% off.

?

WHAT IS FLAMING CLIFFS 3?

There is the option to purchase multiple low fidelity modules in a single package called Flaming Cliffs 3. This includes the A-10A, F-15C, MiG-29A, MiG-29S, SU-25, SU-27 and the SU-33. Low fidelity aircraft provide an easy learning curve for new players. However these aircraft do not have clickable cockpits.

MODULE DEVELOPERS

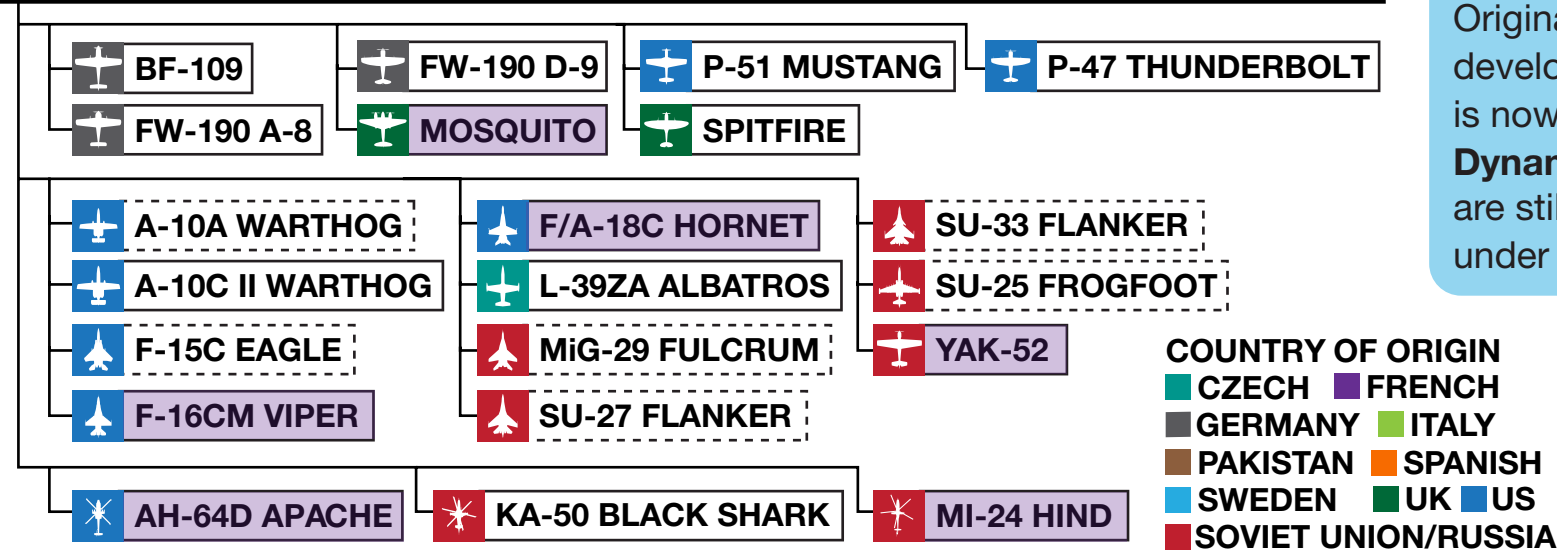
Although **DCS** is developed by **Eagle Dynamics**, there are many third-party developers that create amazing modules for **DCS**. Find below the list of all **DCS** developers and the modules they create. Almost all modules are updated regularly with some more frequently than others. The order below is based on how many modules they produce and then alphabetically.

 **LOW FIDELITY AIRCRAFT**  **FREE AIRCRAFT**  **EARLY ACCESS**

IN TWO WEEKS

A common joke around **DCS** is that a module will be released in two weeks. This is rarely the case.

EAGLE DYNAMICS



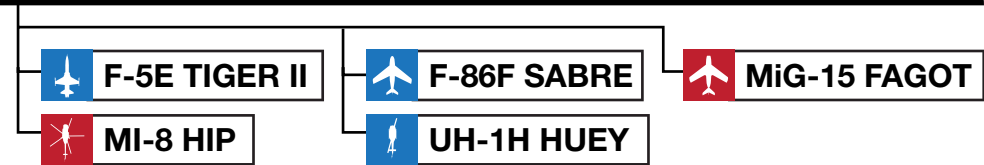
BELSIMTEK

Originally a separate developer, **Belsimtek** is now a part of **Eagle Dynamics**. Their modules are still continually updated under **Eagle Dynamics**.

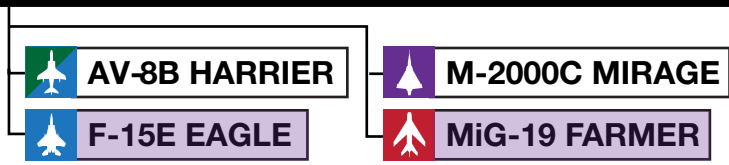
RAZBAM

Besides modules, **RAZBAM** created the South Atlantic Map.

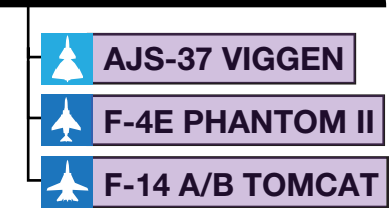
BELSIMTEK



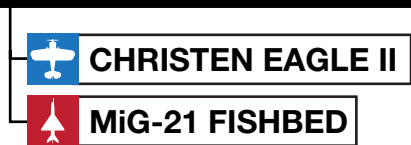
RAZBAM



HEATBLUR



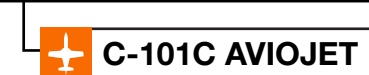
MAGNITUDE 3



UPCOMING MODULES

Developers have new modules on the way and as they are released, this guide will be updated. New modules include the CH-47F Chinook, the Kiowa, the Eurofighter and more.

AVIODEV



AERGES ENG.



POLYCHOP SIM.



OCTOPUSG



DEKA IRONWORK SIM.



INDIAFOXTECHO VIS. SIM.



COMMUNITY



COMMUNITY

Created by various **DCS** community members, the free **A-4E Skyhawk** is often updated. There are too many amazing free modules and additions to **DCS** to realistically include all of them in this guide.

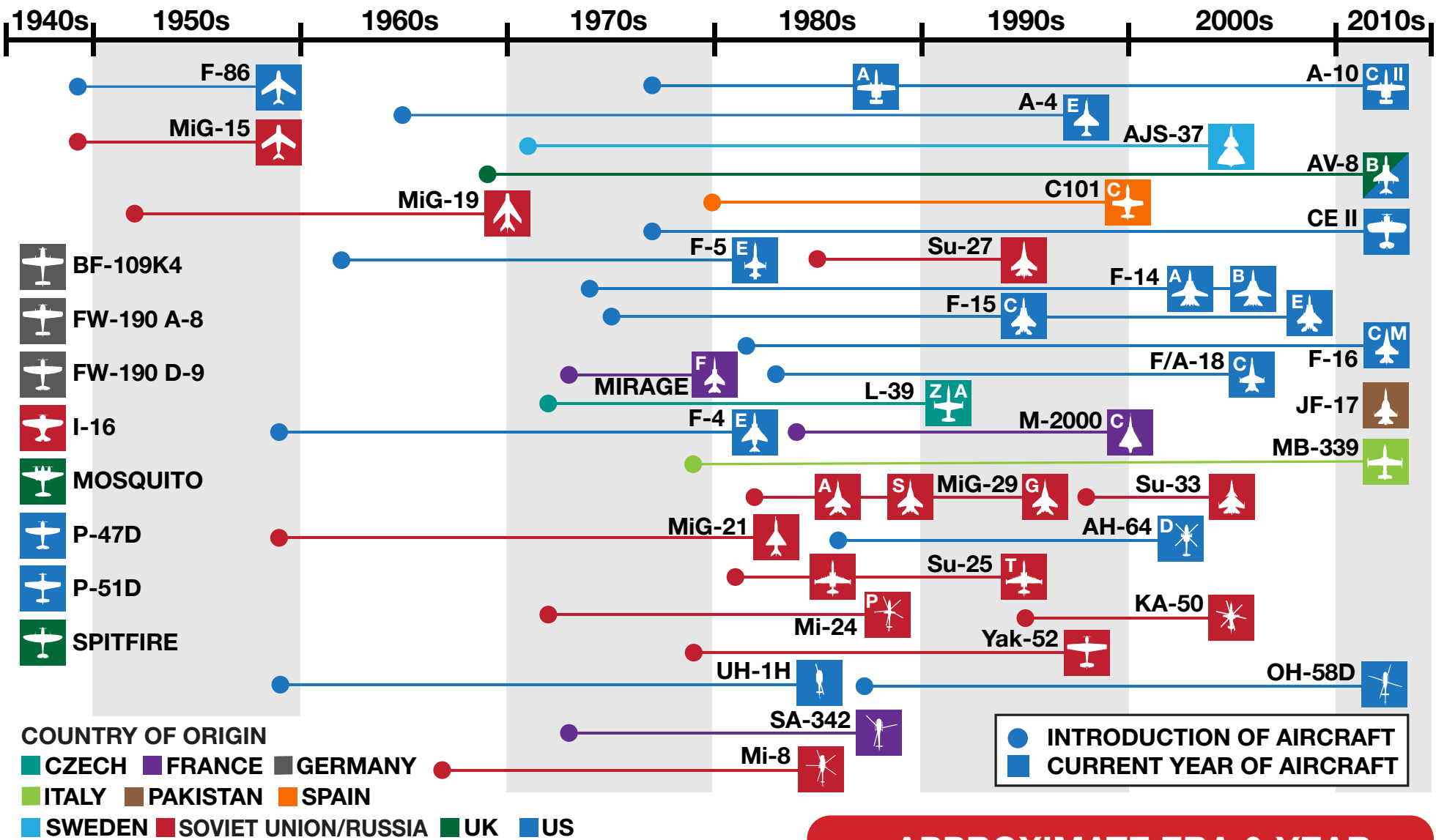
MAPs

Not included are developers that produce maps. **Urga Media** created the Syria Map, while **OnReTech** created the Sinai Map.

AIRCRAFT OVERVIEW

In simple terms, there are two difficulty curves with all aircraft depending on the era, the avionics and flight characteristics. In **Warbirds** of World War 2, the avionics and cockpit layout is simple with many dials, but are often harder to fly and fight in. The aircraft of the early **Cold War** have more complex avionics and cockpit with the introduction of jet engines, many switches and dials but are slightly easier to fly and fight in. Finally **modern aircraft** have much better avionics and cockpit layouts but are far more complex in terms of what you need to learn to utilize the various aircraft and weapon systems. These aircraft are most often easier to fly but can be more difficult to fight in.

AIRCRAFT AND HELICOPTER BY YEAR



The above timeline shows, on the left end of the line, the year the aircraft or helicopter was first introduced, marked by a circle. The silhouette and square on the right side of the line is the approximate year of the current simulated aircraft or helicopter in **DCS**.

If applicable, the aircraft variant letter has been placed with the silhouette. Those aircraft in the 1940s, are all World War 2 warbirds. Those aircraft in 2010s are the most modern aircraft in **DCS**.

APPROXIMATE ERA & YEAR

The aircraft and helicopter era and year are all approximate. Variants and upgrades vary in year of launch.

DCS SALE EVENTS

Eagle Dynamics has multiple sale events throughout the year. Often modules, maps and campaigns are 20% to 50% off.

2 WEEK TRIAL

Most modules including maps can be downloaded and trialed for 2 weeks for free when you login.

EARLY ACCESS

Early access aircraft are currently not complete and continue to receive updates until Eagle Dynamics deems that it is feature complete. All early access modules are still feature rich and can be used in both single player and multiplayer. Elements that are often missing are advanced systems, some weapons and in some instances new aircraft variants, like the Mirage F1, which will receive three other variants.

FREE MODULES

Although only the A-4E is shown in this guide, there are many other free modules available for **DCS**. These free modules are at various stages of development and are often excluded from use on multiplayer servers. Other popular free modules include the F-22 Raptor, the C-130 Hercules, the F-35 Lightning II and others. These modules are usually adapted from Flaming Cliffs aircraft which you would need to own, and are not full fidelity.

MOD WARNING

Modifications to **DCS** can potentially cause issues and bugs especially to the core game and campaigns aswell as multiplayer. If an issue occurs, try removing the modification.

MISSIONS AND CAMPAIGNS

INSTANT ACTION
CREATE FAST MISSION
MISSION
CAMPAIGN

MISSIONS

Instant Action

Instant action missions place you immediately in a mission. First choose the module and then the mission. Missions can vary depending greatly, from as simple as taking off or cold starting the aircraft to dogfighting, air to air refueling and more. After the type of mission is chosen, next choose the map the mission will take place. This defaults to the **Caucasus** map but others can be chosen. As soon as you press the type of mission in the middle of the box, **DCS** will immediately start the mission.

Create Fast Mission

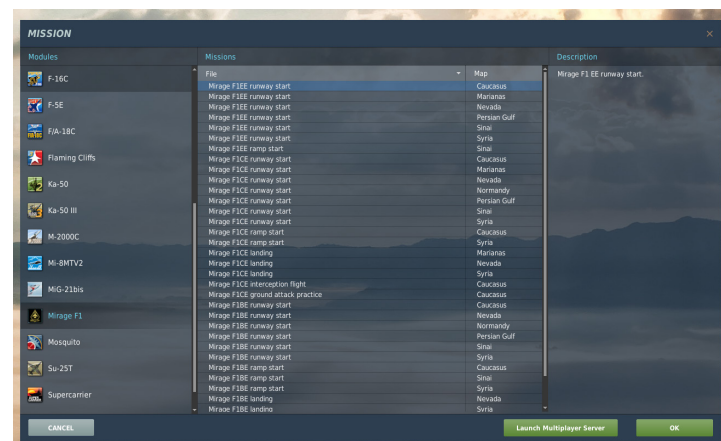
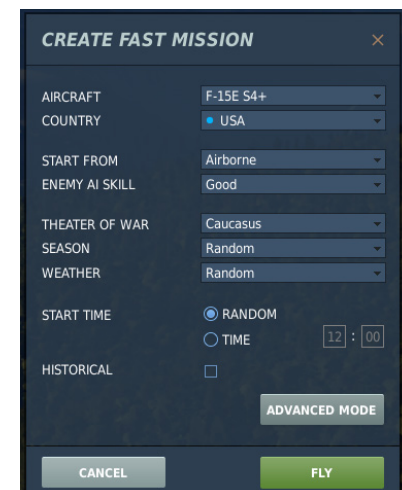
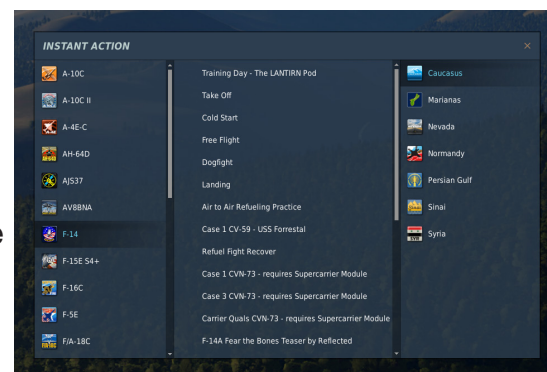
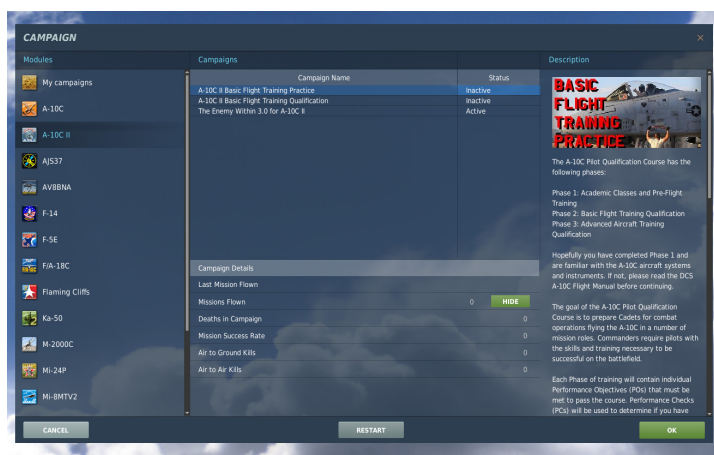
When this is pressed, the following box appears. You then pick the aircraft you want to fly first, then the country. Where you start from, this can be Airborne, Runway, Ramp or Random. Next choose the Enemy AI Skill level from Average to Excellent or Random. The map, season and weather can also be chosen as well as the start time, being Random or at a specific time. Finally Historical can be toggled. If you wish for more options, click the **ADVANCED MODE** button. This opens up a new box with more options such as enemy types, allied types and how many.

Mission

Similar to Instant Action, the mission button brings up the following box. Here you can pick the module you own and the box will show the various missions available for that module. At the top of the left column is the option for My Missions. These are missions you have either created in the Mission Editor or downloaded and saved on your system. DCS defaults the mission folder to **C:\Users\<name>\Saved Games\DCS.openbeta\Missions**

Campaign

Again similar to Instant Action and Mission, pressing Campaign opens up a box showing the modules you own on the left and Campaigns available for those modules. Some modules have multiple campaigns and you can see the status of the Campaign in the screen shown, whether it is inactive or active. At the bottom of the middle box, details information on the campaign, if you have completed missions and more. Campaigns purchased for a specific aircraft will be found in that modules campaign page. There are also free campaigns available online.

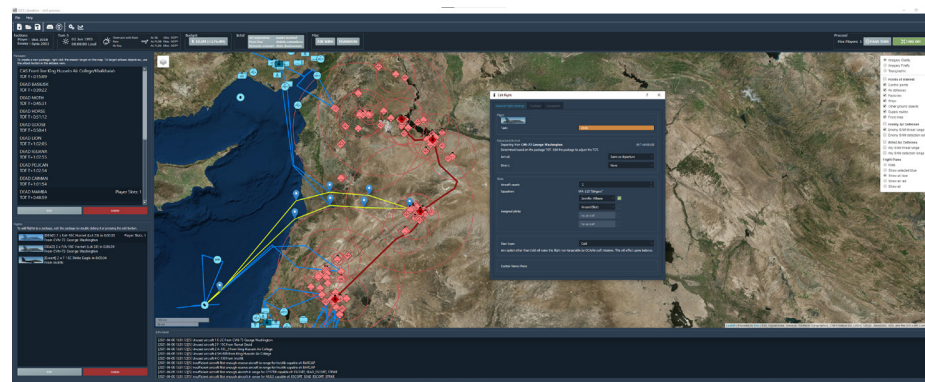


! BOTH AIRCRAFT AND MAP NEED TO BE PURCHASED TO ACCESS THE CAMPAIGN.

DYNAMIC CAMPAIGNS

DCS Liberation

DCS Liberation is a free turn-based single-player or co-op dynamic campaign. It is an external program that generates full and complex **DCS** missions and manages a persistent combat environment which can then be loaded in **DCS** to play.



Through the Inferno

Through the inferno or **TTI** is an open-world scenario for multiplayer and single player that creates a dynamic and procedural gameplay scenario. You can fly any aircraft and engage air to air and/or air to ground threats. Besides the online servers, you can also download the campaigns for each of the maps available in **DCS**.



MISSION EDITOR

HOT / COLD

An aircraft can be **Hot** meaning everything is up and running, ready to taxi, or **Cold**, meaning the aircraft is cold and dark and you need to follow the start up procedure (or choose automatic startup).

OVERVIEW

The **Mission Editor** can be quite easy to create training missions to suit any and all needs. You can create a mission with any module or modules (even ones you do not own) and add targets or other items geared to what you want to learn and do. **You do need to own the module if you want to be the pilot.** You can set the weather, the time of day, you can even set your aircraft to be invincible and/or have unlimited fuel and weapons also, which can help for training purposes.

Find below a sample table on just some of the missions you could create:

Type of Mission	Threat	Goal	An Example Mission
Air to Air (A2A)	Enemy aircraft (armed, unarmed)	Destroy threats	BARCAP, CAP, DCA, Escort, HAVCAP, Intercept
Air to Ground (A2G)	Enemy vehicles (armed, unarmed)		SEAD, DEAD, Strike, CAS
A2A & A2G	Both enemy aircraft and vehicles		CAS, Strike, CAP
Utility	Practice taking off and/or landing, air to air refueling, carrier landing, patterns and more.	Complete task	Air to air refueling, Flight familiarization, Startup, Flight patterns, Carrier landing

You need to decide on the **starting location** for your module. This can be in the air, at a specific altitude, on the ground **Hot** or **Cold** at an airfield. Starting in the air is faster for you to get into action but be sure to set your weapons prior to starting.

You can also add allied aircraft to be a wingman or to serve another role. Allied vehicles attacking enemy vehicles in a minor skirmish or large battle. There is almost no scenario that you cannot create in the **Mission Editor**.

CREATING A MISSION

To start, click the **Mission Editor** button. Next a window with **NEW MISSION SETTINGS** will be shown (shown in the image to the right). Here you can choose the map. Although not needed when you start, you can also edit country sides, the year and more.

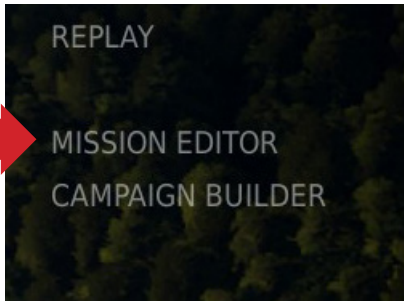
- A.** First start by placing the aircraft you want to use by clicking the **Add Airplane** icon or pressing **A** and then clicking on the map.
- B.** Next choose the aircraft from the **TYPE** drop down menu. If the aircraft is yellow, then you can fly it. Next under the **SKILL** drop down menu, you choose **Client** or **Player**. If you don't the aircraft will be piloted by AI.
- C.** Next choose where under the **TYPE** drop down menu. This can be **Turning point** or **Fly over point** at a specific altitude and speed, **Takeoff from runway** or **Takeoff from parking hot** with an aircraft ready to fly on the ground, **Takeoff from ramp** with the aircraft cold and dark or finally **Landing** with the aircraft coming into land. The **Mission Editor** will move the aircraft automatically to the closest airfield.
- D.** If applicable, choose the weapons you would like on the aircraft by pressing the icon shown.



- E.** Once complete, next choose to add enemy or allied vehicles, ships, aircraft.
- F.** Under the **CUSTOMIZE** drop down menu, click **MISSION OPTIONS**. Here you can set your aircraft to be **Immortal**, have **Unlimited Fuel** and **Unlimited Weapons** by checking the box on the left side. Other options can also be toggled here.
- G.** Next press the **SAVE MISSION FILE** button and save your mission on your system.
- H.** Finally press the **FLY MISSION** Green icon to fly the mission.

Enjoy your first **DCS** mission!

To watch a video about the **Mission Editor**, check out the guide created by **Spudknocker** by clicking [here](#) or clicking the **SpudKnocker** circular icon.



MAP SCREEN

METRIC / IMPERIAL /
ICONS NATO / RUSSIAN
BEACONS INFO
NEW / OPEN /
SAVE / SAVE AS /
OPEN BACKUP / EXIT



+AIRPLANE / +HELI / +SHIP / +VEHICLE
+STATIC / +TEMPLATE / LOAD TEMPLATE
/ REMOVE / SAVE TEMPLATE / CENTER
ON PLAYER
CAMPAIGN / CAMPAIGN BUILDER

- CREATE NEW MISSION
OPEN FILE
SAVE MISSION FILE
CREATE MISSION
BRIEFING
DATE, TIME, WEATHER
SET RULES FOR TRIGGER
DEFINE MISSION GOALS
BATTLEFIELD COMMANDERS
SET MISSION OPTIONS
CHANGING COALITIONS
FLY MISSION
ADD AIRPLANE
ADD HELICOPTER
ADD SHIP
ADD GROUND UNIT
CREATE/MOD TEMPLATES
ADD STATIC OBJECT
INITIAL POINT OBJECT
BULLSEYE
CREATE TRIGGER ZONE
VIEW TRIGGER ZONES
VIEW UNIT LIST
REMOVE OBJECT/GROUP

SET MAP OPTIONS
DRAW TOOL
USE RULER

FILE VIEW EDIT FLIGHT CAMPAIGN CUSTOMIZE MISSION GENERATOR MISC

ENCYCLOPEDIA / CREDITS
GENERATE / NODES
TEMPLATE / SAVE
MISSION OPTIONS / MAP OPTIONS
LOCALE PANEL / SET POSITION
LOGBOOK
FLY MISSION / PREPARE MISSION
RECORD AVI / REPLAY / LAUNCH
MULTIPLAYER SERVER

KEYBOARD SHORTCUTS
CTRL+N = NEW
CTRL+O = OPEN
CTRL+S = SAVE
A = +AIRPLANE
H = +HELICOPTER
S = +SHIP
U = +VEHICLE
O = +STATIC
DEL = REMOVE
C = CENTER ON PLAYER
CTRL+P = FLY MISSION
CTRL+M = PREPARE MISSION
CTRL+R = RECORD AVI

LEFT MOUSE
BUTTON -
SELECT ITEM
RIGHT MOUSE
BUTTON -
MOVE MAP

COMPLEX MISSIONS

This is just a quick start guide on mission creation. You can spend a lot of time learning everything possible which can allow you to create large, dynamic, very involved and realistic missions and even campaigns. More information can be found online in multiple locations.

LEARN TO FLY

FLIGHT

Thrust

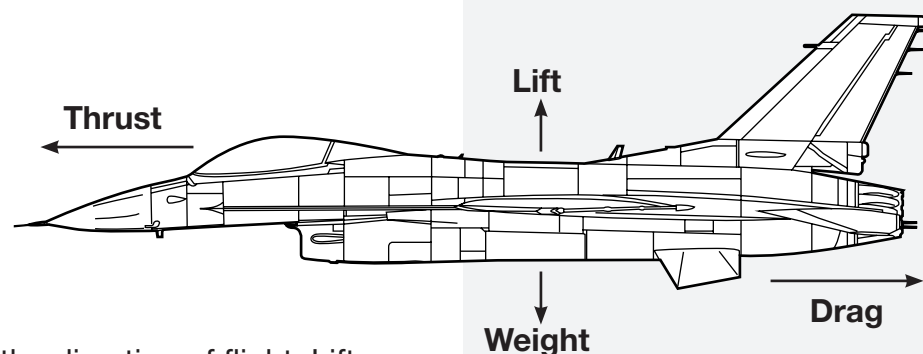
Thrust is what pushes an aircraft forward to generate airflow over the wings. This can be done in several ways including by the spinning blades of a propeller, or a rotating fan pushing air out from the back of a jet engine.

Lift

Lift is the component of the aerodynamic force that is perpendicular to the direction of flight. Lift results when the wing causes the surrounding air to be deflected downward, the air then causes a force on the wing in the opposite direction or upward.

Drag

For a solid object moving through air, drag is the component of the force acting opposite to the direction of the movement. Drag opposes the motion of the object and must be overcome by thrust. The process which creates lift also causes some drag.



SIMPLE DESCRIPTION

Aerodynamic flight is a complex process and this is a rudimentary overview. Find out more online.

CONTROLS

All aircraft controls can be summarized to **Pitch**, **Roll** and **Yaw**. The throttle controls speed and acceleration.

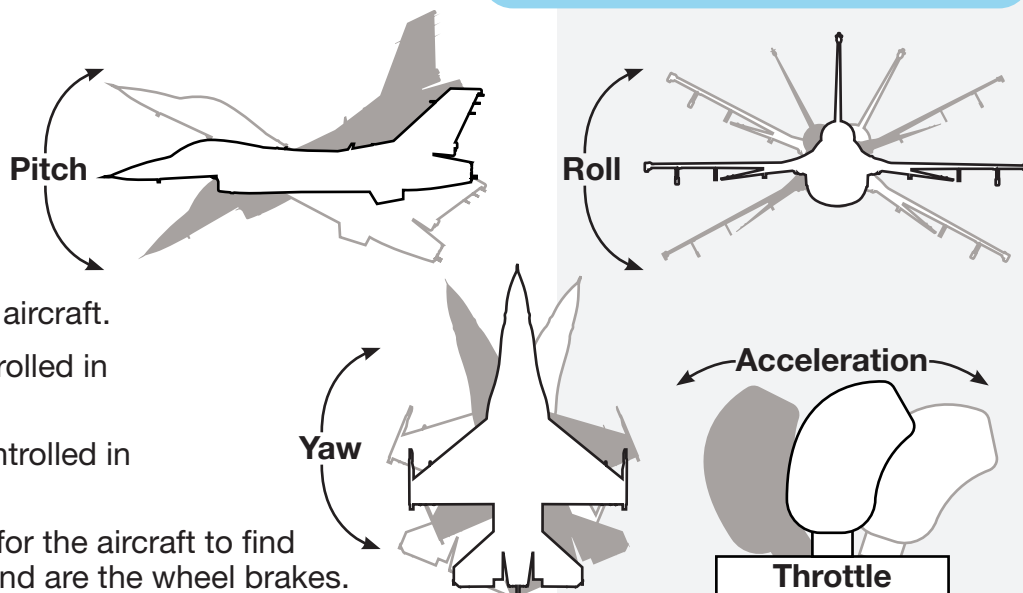
Pitch is mechanically controlled by the aircraft elevators and is controlled in the cockpit via the joystick.

Roll is mechanically controlled by the aircraft ailerons and is controlled in the cockpit via the joystick. Roll is motion of raising and lowering the wings, **bank** is the angular displacement of the aircraft.

Yaw is mechanically controlled by the aircraft rudder and is controlled in the cockpit via the rudder pedals.

Acceleration is mechanically controlled by the engine and is controlled in the cockpit via the throttle.

When setting up your controls in **DCS**, go into the **Axis** controls for the aircraft to find the **Pitch**, **Roll**, **Thrust**, **Rudder** binds. Another important axis bind are the wheel brakes. If you have rudder pedals, they often have another axis besides Yaw for wheel brakes. Used to slow down and stop an aircraft when on the ground.



Deadzones

A small deadzone in the **Pitch** and **Roll** axis must be set via the **Axis Tune** menu. This is because the autopilot will not be able to engage if the stick is not completely centered, and most sticks are not completely zeroed by definition. If you don't set a deadzone, you run into the risk of not being able to engage your autopilot since your stick will always be detected as "not completely centered" even if the position offset is negligible.

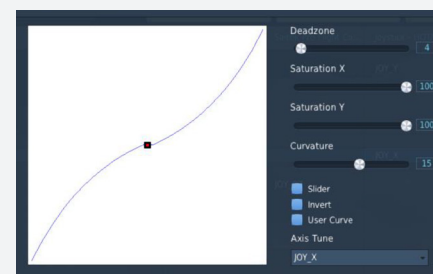
Trim

While flying an aircraft it is recommended to always trim the aircraft. To "trim" an aircraft is to adjust the aerodynamic forces on the control surfaces so that the aircraft maintains the set attitude without any control input. While all axes of rotation are affected by aerodynamic forces, not all aircraft types are capable of being trimmed in all three axes. This is most often accomplished by binding a **hat switch** on your joystick.

Joystick

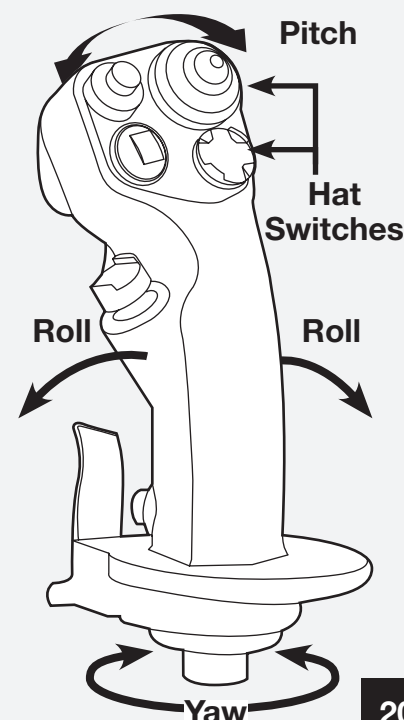
Your joystick might vary from the image but most control the aircraft the same way. Pushing the joystick forward and backwards controls the pitch, moving the joystick left or right controls the roll. Some joysticks have a twist axis which can be used to control yaw instead of rudder pedals.

Joysticks usually have multiple buttons and hat switches on them for various aircraft functions, for firing weapons, trimming the aircraft and others. Be sure to check out [Chuck's Guides](#) for the aircraft you have to see how best to setup your joystick.



FUEL

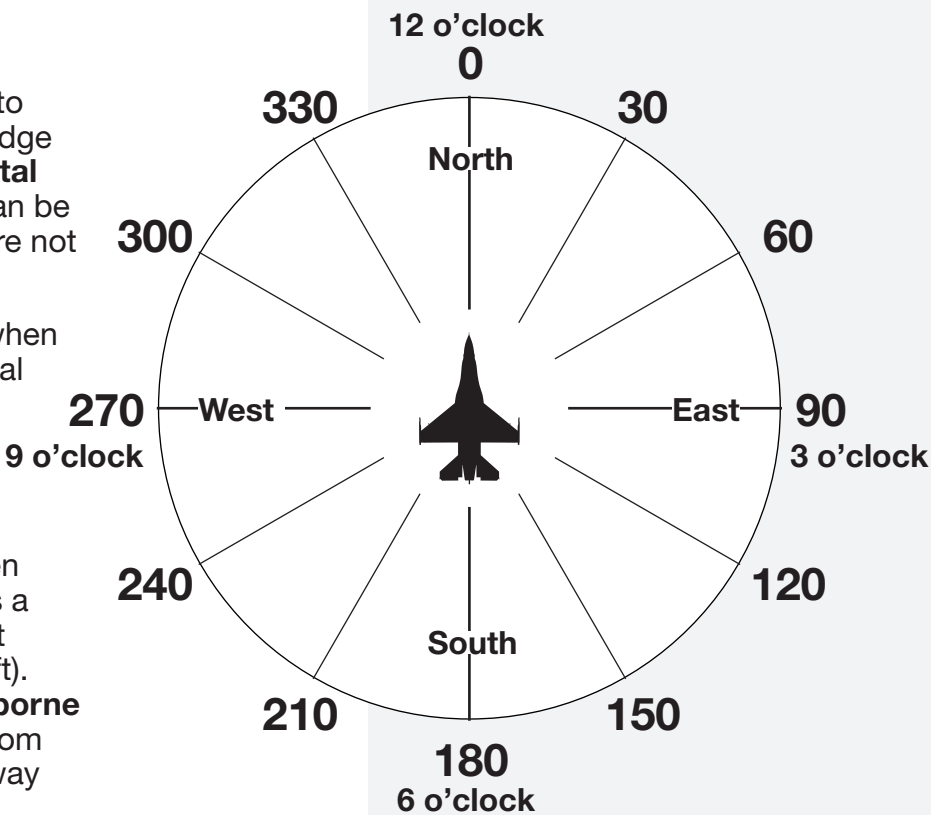
Aircraft have multiple fuel tanks and often have the option to carry additional fuel tanks. Understanding fuel consumption is key to flying an aircraft. Understanding how throttle position, altitude and stores impact fuel consumption needs to be understood so that you don't run out of fuel while flying. Manuals and various guides cover this information.



NAVIGATION

All maps in **DCS** have the orientation with North being up. In the image to the right, your aircraft is flying directly North. Each number around the edge refers to degrees of direction. Within the aircraft, there will be a **Horizontal Situation Indicator** or **HSI** which looks similar to the image. This **HSI** can be mechanical or digital depending on the aircraft. Also note, some **HSIs** are not always orientated North, in the F-16 for example.

In radio calls, the clock numbers refer to the direction you should look when searching for a target or other point of interest, when given by an external source like a wingman or **GCI**.



COMMUNICATION

Within **DCS** communications, a **BRAA** callout or a **Bogey Dope** are often heard. This can be true in both single and multiplayer. A **BRAA** callout is a communications format that provides you with information on an aircraft either friendly or enemy (**Bogey Dopes** are specifically for enemy aircraft). This is given to you by a **Ground Controller Intercept(ion)** (**GCI**) or **Airborne Warning and Control System** (**AWACS**) and can be from a human or from the games AI. This information includes the aircrafts direction, how far way they are, how high or low they and what direction they are going.

?

WHAT IS BRA or BRAA?

A tactical control format providing target Bearing, Range, Altitude, or Bearing, Range, Altitude, and Aspect, relative to a friendly aircraft or bullseye.

EASY COMMS

If you select **Easy Comms** in the settings, **DCS** will automatically set the correct radio frequency and channel for you.

A typical **BRAA** call out can look like this:

For who

From

What

Range in miles

Dodge 1-1, Darkstar, BRAA, 230, 60, 4,000, Hot.

Your callsign

AWACS Callsign

BRAA Callout

Direction

Altitude in feet

Aspect

So what does this mean?

- **Dodge 1-1** is your callsign. This could be Enfield 1-3 or a number of other call signs.
 - **Darkstar** is the callsign for the **GCI/AWACS**. This could also be **Magic**, **Overlord**, or some another call sign. Usually its one of these however.
 - **BRAA Callout** is informing you that what is about to follow is **BRAA** information. **BRAA** stands for Bearing, Range Altitude and Aspect. As a note, Aspect is sometimes omitted in a callout.
 - **Bearing** is the direction to the aircraft for you to turn towards. In the above case, you would need to turn your aircraft to the direction **230** to head towards the aircraft.
 - **Range** is the distance to the aircraft. In this case, 60 miles away.
 - **Altitude** is the height the aircraft is flying at, 14,000 feet in the above case.
 - **Hot** is the direction of the aircraft. **Hot** meaning coming towards you.
- The aspect for an aircraft can also be the following: **Cold** or **Drag + direction** (moving away from you), **Beam + direction**, or **Flanking + direction** (between beam and hot). What is said for Aspect can depend on if the GCI/AWACS is AI or human.

When calling for a **Bogey Dope** or **BRAA** call, specifically on a multiplayer server with a real **GCI/AWACS**, you would say the following:

Darkstar, Dodge 1-1, Request Bogey Dope

SIMPLE RADIO STANDALONE (SRS)

Simple Radio Standalone(SRS) is a **free** communications program that ties into the in-game radios and allows realistic multiplayer voice communications using the frequencies and capabilities of whichever aircraft you are currently using. Learn more [here](#).

RECOMMENDED

For continued training, read the manual and Chuck's Guide for the specific aircraft. You can also learn: Start up and shut down procedures formation flying, air to air refueling and more.

LEARN TO FIGHT

RADAR (RAdio Detection And Ranging)

BASIC INFORMATION

At it's core, radar only measures one thing: range. By transmitting bursts of radio energy, and then recording how much and when energy is returned it can *detect* a target and determine its range.

However, if the aircraft additionally controls the transmitted energy into a tight beam with an antenna and then measures where the antenna is pointing, it can find the direction and elevation of targets. Of course now the radar can only see within it's beam, and sweeping the antenna across the sky will take time. This is a general concept in radar, the more information needed, the slower the search will become.

Pulse

Arguably the simplest form of airborne radar works by simply sending out pulses of radar waves, and then waiting to “listen” for return pulses. This technique was used on many early radar sets due to it’s simplicity but has several drawbacks:

- Returns coming back from the ground are difficult to distinguish from actual target returns. These extraneous returns are referred to as ground clutter and allow a target to hide simply by flying below you.
- Without advanced processing techniques the range of a pulse radar is fundamentally limited due to “range ambiguity”.
- The only information we get is direction and range, target velocity can be interpreted watching the movement of a return over multiple pulses.
- In order to launch missiles we have to enter a “single-target track” (**STT**) mode where the radar continually illuminates a single target. Otherwise the missile would not receive updates on the target’s position often enough to guide to impact. Aircraft are often equipped with equipment to warn when they’re being “locked”, allowing them to defend against incoming missiles.

These issues can be mitigated using signal processing, however, this proved difficult with early electronics.

ADVANCED INFORMATION

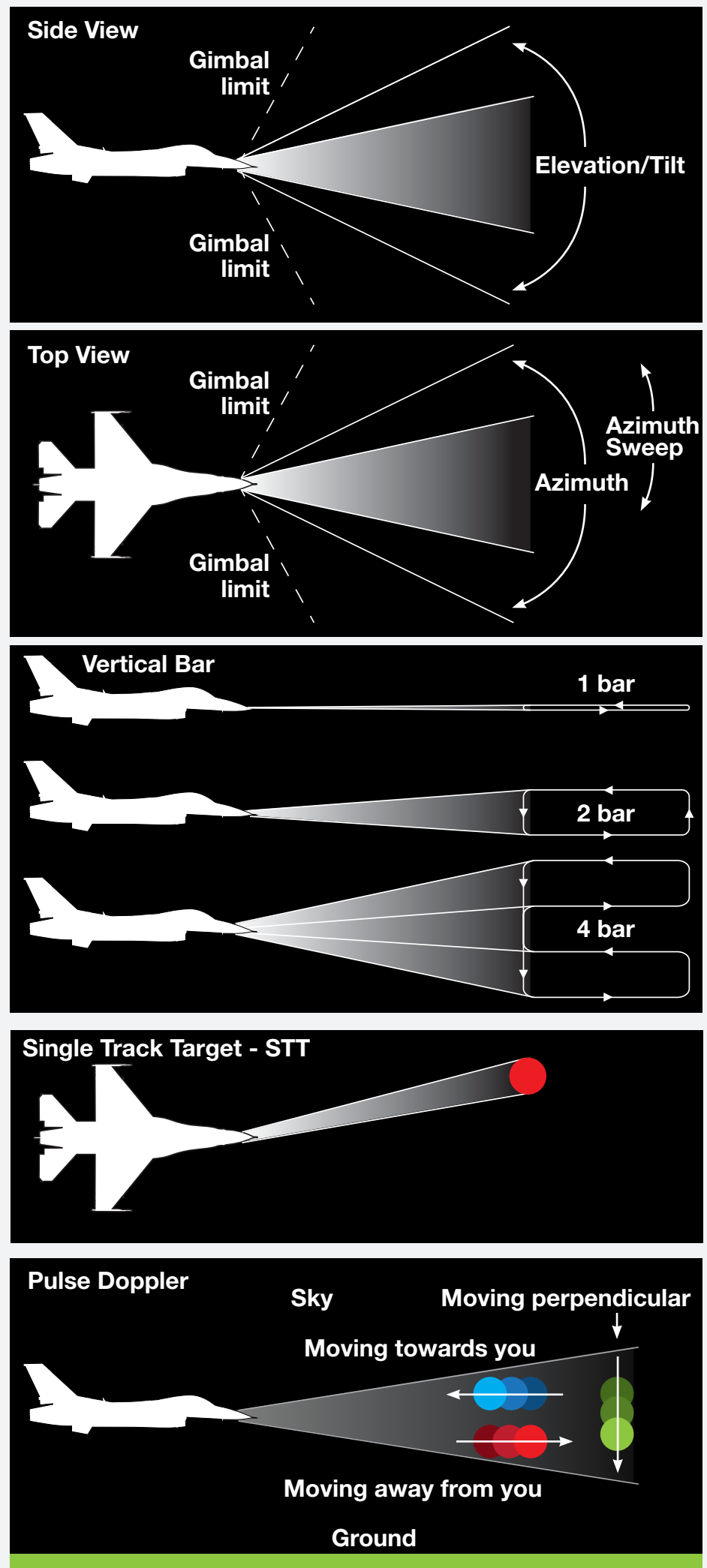
Pulse Doppler

Introduced into airborne radars in the 1960s, Doppler Radars use the same effect noticeable when an ambulance drives past with the siren on: the change in pitch with relative velocity. Just as sound waves change pitch when the ambulance is driving towards vs away from you, the radio waves change frequency when they bounce off a moving target. This frequency shift of the return pulse can be measured and compared with the transmitted pulse to determine target velocity.

This is slightly more complex to accomplish but essentially *eliminates the problem of ground clutter*. Since the earth is not moving we can now simply filter out any returns which are not moving, allowing us so called "look-down shoot-down" capability. Also typically, these can operate at longer ranges.

Unfortunately pulse Doppler radars have their own disadvantages:

- It is now only measuring target velocity (and direction), or rather “relative” target range-rate, how fast the target is coming towards the radar. To obtain range information from a pulse Doppler radar, it will need more complex methods.
 - Since it is only measuring relative target velocity, if the target turns perpendicular to the radar, it will appear to not be moving at all, just like the earth and will be filtered out as ground clutter. This is known as “**notching**” and is a common anti-radar tactic.
 - Just like for pulse radars, the radar must enter a **Single Track Target (STT)** mode for weapon employment. If the radar is looking down at the ground, which is also green, the target can vanish off the scope, because it’s very hard to see a green object against a green background. If the target is above, the target is green against the black of the sky, and therefore can still be seen.
- !** This outline of how radar and its types works is very simplified. Real life radars have multiple techniques to address the weaknesses mentioned. Radar is not a perfect beam but rather a cone with soft edges, a lot of filtering happens to work



! RADAR SIMPLIFICATION

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Track While Scan (TWS)

Track While Scan is a yet more advanced type of processing for pulse Doppler radars. By giving the radar a “memory” it will “remember” each return’s direction, range, and velocity. Now it can predict where that target will be in-between observations, i.e when the radar is scanning elsewhere. Such remembered returns are referred to as “tracks”.

The most noteworthy feature of track while scan is the ability to launch missiles at multiple targets simultaneously. Since the radar can now predict where a target will be in-between returns, it can guide weapons towards this predicted point. Missiles designed for such use typically have their own small radars that activate once close enough for precision terminal guidance. Because the target aircraft is not **STT’d**, it cannot detect the launch of a missile from **TWS**. This has significant tactical ramifications.

Due to gathering yet more information for the tracks, the scan time/range is generally reduced in **TWS** modes, at least in **DCS**. Also **TWS** inherits the general weakness of pulse Doppler to notching.

RADAR WARNING RECEIVERS

In modern aircraft, including many helicopters, a **RADAR WARNING RECEIVER** or **RWR** is installed. This system has multiple receivers positioned around the aircraft that interprets incoming **RADAR** signals from external Radar systems and warns the pilot of them and their direction.

Older aircraft like the MiG-21, have a simple **RWR** (shown to the right), while more modern the aircraft, usually have better **RWR** systems. The circular **RWR** graphic to the right is a common **RWR** found in quite a few BLUFOR aircraft.

Within the rings, symbols are shown and each have different meanings. For example a diamond by itself is the primary threat, a diamond surrounded by a circle means that the threat has locked on to you. Depending on the aircraft and the **RWR**, there can be different symbols and meanings. Review the specific aircraft you are in to find out more about its **RWR**.

Audio Warnings

As well as visual warnings, most **RWR** also have audio warnings. These warning vary depending on the aircraft. For example, on the most common **RWR** for BLUFOR, a single beep means a new ground or sea based emitter has been detected. A double beep means a new airborne emitter has been detected. Repeating beeps means an emitter is tracking you and finally a fast repeating beep means an emitter is guiding a missile towards you or is a missile.

Limitation of an RWR

A key limitation of an **RWR** is that it only warns the pilot of a Radar threat, whether that is an ground or air radar or a radar within a missile. An **RWR** does not warn you of an Infrared or **IR** missile launch like a **Sidewinder** or **Stinger**. These missiles track heat rather than using radar. To minimize this threat, fly high above ground based Infrared missiles launch systems and keep your eyes peeled for air launched **IR** missiles.

Missile Warning System

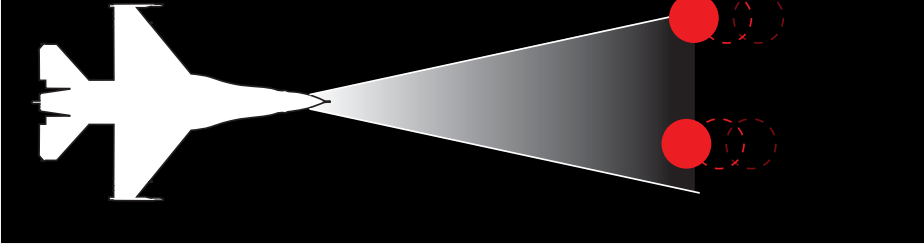
A few **DCS** aircraft have an advanced system installed called a **Missile Warning System** or **MWS**. This system alerts the pilot to any missile launch including **IR** missiles. This system can be found on the **A-10**, the **Mirage 2000** (if specific weapons are installed), the **JF-17** and the **AH-64**.

The problem with the system however, is that it will warn of any missile launch detected whether that missile is from a friendly or enemy. Keep your eyes peeled and if in doubt, launch counter measures.

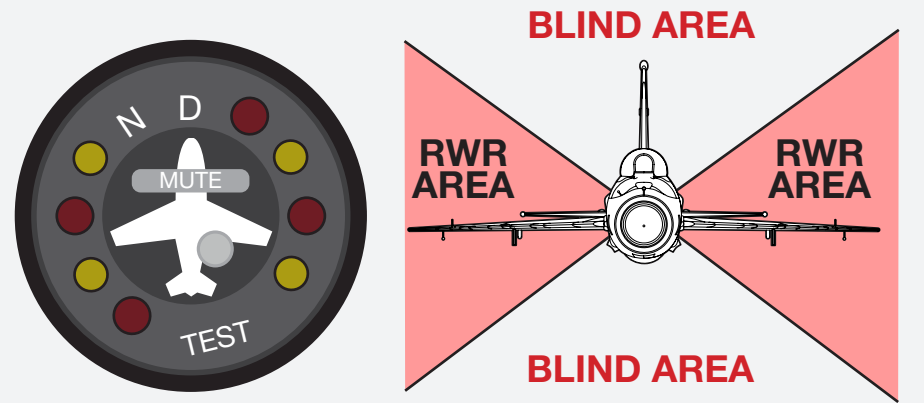
QUICK REFERENCE GUIDE

Check out the **Quick Reference Guide** [here](#) to see more information about the **RWR**.

Track While Scan - TWS



SIMPLE RWR - SPO-10 in the MiG-21

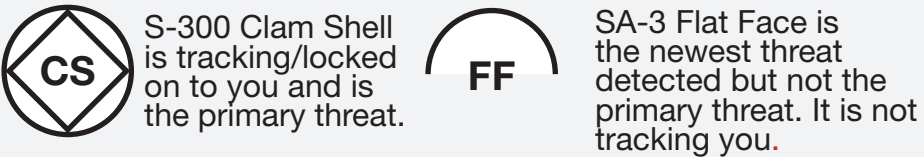


RWR FOUND IN A FEW BLUFOR AIRCRAFT*

* Some BLUFOR RWRs are inverted. Be sure to check the manual.



EXAMPLES:



AUDIBLE WARNINGS

SINGLE BEEP	A new ground or sea based emitter has been detected.
DOUBLE BEEP	A new airborne emitter has been detected.
REPEATING BEEP	An emitter is tracking you.
FAST REPEATING BEEP	An emitter is guiding a missile or is a missile.



MISSION TYPES

In **DCS** there are many different missions that aircraft can complete. Some aircraft are capable of only a few mission types, while some are capable of almost all mission types. The mission type you want to accomplish is generally based on the aircraft and weapon load out you choose. Some aircraft are suited to a few mission types, while some can accomplish almost all mission types. Find below an brief overview of the mission types available in missions, campaigns and multiplayer.

BARCAP (Barrier Combat Air Patrol)

Prevent enemy aircraft from entering an area you are tasked to defend.

CAS (Close Air Support)

Close Air Support missions against ground units. This usually entails destroying tanks, APCs and any other ground threats.

CAP (Combat Air Patrol)

Patrol an area while preventing enemy aircraft from entering an area you are tasked to defend.

CSAR (Combat Search and Rescue)

A mission where the objective is to recover a downed pilot or other asset. These are usually associated with helicopters.

DCA (Defensive Counter Air)

An air to air mission to defend a specified object (airfield, bridge, etc).

DEAD (Denial of Enemy Air Defenses)

Destroy all enemy air defences (SAMs, AAA, Manpads etc) either in an area or anywhere.

Escort

Escort and defend a friendly aircraft during its flight.

HAVCAP (High Asset Value Combat Air Patrol)

Protect a high value asset in the area, usually a AWACs, tanker or other aircraft.

Interdiction

Flown to disrupt enemy reinforcements near the front lines.

Intercept

Intercept and destroy an enemy aircraft or multiple aircraft before they can attack and/or complete their mission.

OCA Strike

An Offensive Counter Air Strike mission that targets specifically against airbases or search radars. The purpose of an OCA strike is to help gain aerial supremacy by destroying assets on the ground.

Recon / Recce

A reconnaissance mission to gather intelligence about a target or targets whether airborne or ground.

SEAD (Suppression of Enemy Air Defences)

The goal is not to destroy any specific anti air defences, but to protect a strike package as needed on the way to, or during, their mission. The package is protected by keeping defences from attacking friendly units, either by destroying them, distracting them, or forcing them to switch off targeting systems to avoid destruction.

Strike

An Air to Ground strike mission against a variety of specific and fixed strategic targets (other than airfields and radar installations).

Sweep

An aggressive Air to Air flight that has no patrol time but target steerpoints where you will attack and destroy as many enemy aircraft as possible while limiting friendly losses in your flight.

TARCAP (Target Combat Air Patrol)

An air-to-air mission that protects allied attacking aircraft over an target area. As opposed to an escort flight, which flies over the target area, then returns to base, this flight arrives before the attacking aircraft and patrols the area while the strike is conducted, then leaves.


REARM & REFUEL

Depending on the mission chosen (Training, Campaign, Instant Action, Mission or Multiplayer), you might need to **Rearm and Refuel** your aircraft before departing or when you return to your airbase. This is especially true on **Multiplayer Servers**.

To access the **Rearm and Refuel** window, press **Left Alt + ‘** or set up the key press in the settings

BOARD NUMBER: Used only in some instances, but rarely needed.

MISSION RESOURCES



SMK 9 8 7 6 5R 5 5L 4 3 2 1

CANCEL

TOTAL WEIGHT 27355/42300 lbs

MAXIMUM WEIGHT

OK

FUEL 100%

GUN AMMO 0%

AMMO TYPE SAPHEI High Explosive Armor Piercing P

FLARE 60

CHAFF 60

SELECT LOADOUT:

SELECT LIVERY

011 BOARD NUMBER

DRAG THIS BOX TO REFUEL

DRAG THIS BOX TO REARM GUN

CHOOSE THE TYPE OF GUN AMMO

DRAG THIS TO CHANGE FLARE & CHAFF AMOUNT

SELECT A PREDETERMINED LOADOUT

SELECT A LIVERY

CHANGE BOARD NUMBER

PRESS TO CANCEL

CLICK THESE BOXES TO CHOOSE A WEAPON ON THAT STORE LOCATION

PRESS TO CONFIRM

!

OVERWEIGHT
Ensure to not overweight the aircraft else you are unlikely to take off.

QUICK REFERENCE GUIDE
Check out the Quick Reference Guide [here](#) to see what stores are available for each aircraft.

25

BEYOND VISUAL RANGE & WITHIN VISUAL RANGE

In air combat, **Beyond Visual Range (BVR)** and **Within Visual Range (WVR)** are regularly mentioned. **BVR** is most often referred to when using weapon systems that can attack an enemy before visual range is achieved or setting up approaches and options against an enemy. Weapons systems that are used in the **BVR** envelope include the **AIM-120 AMRAAM**, **R-77** and others. **WVR** is most often referred to when using weapon systems that can attack an enemy within visual range. These weapons include the AIM-9, R-60 and guns.

BASIC FIGHTER MANEUVERS (BFM)

When flying an aircraft, there are various **Basic Flight Maneuvers (BFM)** like loops, barrel rolls and more. Learning how and when to use specific maneuvers during an engagement with an enemy aircraft can and will help you win. Find below a brief overview of common **BFM** concepts.

Know your aircraft

You need to learn and train in the chosen aircraft. You need to know its strengths and weaknesses to take full advantage of how best to fight in it. Also knowing the enemy aircrafts strengths and weaknesses will help you decide on the best course of action to ultimate defeat them.

Situational Awareness

Key to winning any engagement is **Situational Awareness (SA)**. If you see the enemy before they see you, you can take actions to improve and win in an engagement. How to obtain **SA** is often based on the aircraft and its sensors (if it has any) and keeping your head on a swivel, continually looking outside and all around you. Communicating with **AWACS**, **GCI** and other aircraft, if available, can point you in the right direction (Check out the [Communication](#) section for more information). In a **BFM** fight, key is always keeping your eye on the enemy, and its often said, lose sight, lose the fight.

Energy Management

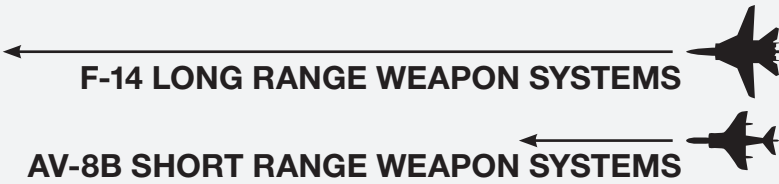
Understanding and mantaining energy is key to **BFM**. There are many factors at play on your aircraft and these can vary with speed and altitude, such as turn radius, turn rate, and the specific energy of the aircraft. You need to use **BFM** to turn these limitations into tactical advantages. A faster, heavier aircraft may not be able to evade a more maneuverable aircraft in a turning fight, but can often choose to break off the fight and escape by diving or using its thrust to provide a speed advantage. A lighter, more maneuverable aircraft can not usually choose to escape, but must use its smaller turning radius at higher speeds to evade the enemy, and to try to circle around behind. **BFM** is a constant series of trade-offs between these limitations to conserve the specific energy state of the aircraft.

The Merge

In basic terms, the merge is when you and the opponent pass each other. This can be needed for aircraft identification and other reasons, but often **BFM** maneuvers relate to the merge and corresponding aircraft positions.

One Circle

A **one circle** fight starts at the merge, when you turn towards your opponent becoming a nose to nose fight. Aircraft that have great **Angle of Attack (AOA)** capabilities often win **one circle** fights. Great **AOA** fighters include the **M-2000C**, **MiG-21** and **MiG-29**. These aircraft can bleed energy quickly and obtain one fast turn to point their nose at you to deploy weapons. After the first turn however, they often start a downward spiral to continue to maintain airspeed or end up at a energy disadvantage.



Know your aircraft

Great one circle fighters



Great two circle fighters

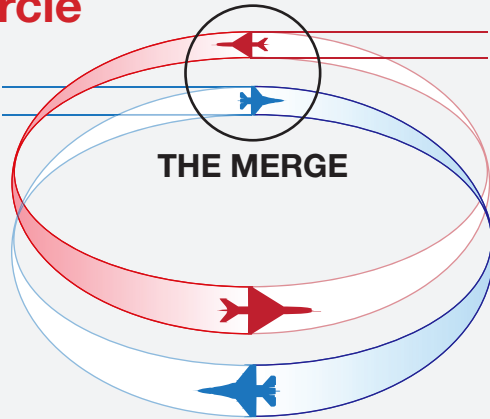


Best sustained turn rates

A-10C:	215 kts	L-39ZA:	206 kts
AJS37:	337 kts	M-2000C:	252 kts
AV-8B:	248 kts	MiG-15:	274 kts
C-101CC:	206 kts	MiG-19:	436 kts
F-5E:	466 kts	MiG-21:	229 kts
F-14A/B:	314 kts	MiG-29:	369 kts
F-15C/E:	350 kts	Su-25:	301 kts
F-16CM:	397 kts	Su-25T:	321 kts
F-18C:	361 kts	Su-27:	374 kts
F-86F:	264 kts	Su-33:	374 kts
JF-17:	355 kts		

All speeds are approximate and are based on a clean aircraft. This information and more can be found in the [Quick Reference guide](#).

One Circle



BFM Resources

Check out the following resources to learn more about **BFM**

- [What is BFM?](#)
- [Learning BFM Videos](#) & [Learning ACM Videos](#)
- [Art of the Kill](#)
- [Wikipedia](#)

Two Circle

A two circle fight starts at the merge, when you turn to chase an opponent becoming a nose to tail fight. This is often called a rate fight or using the better turning rate of your aircraft to out turn the enemy. Aircraft that are great rate fighters are the **F-5**, **F-14**, and **F-16**. You need to know the best sustained turn speed and hold it while chasing the enemy.

Patience

BFM is a game of patience. You need to know and understand your aircrafts capabilities, its strengths, its weaknesses, its **AOA** capabilities and its sustained corner speed. This is only obtained through training and practice and cannot be rushed.

Pursuit: Lead, Pure and Lag

Pursuit position is where you place your nose relative to the enemy. If your looking to gain on the enemy then you are going to need to pull enough lead to have your nose pointing in front of the target or **Lead Pursuit**. This will give you the best closure rate.

Pure Pursuit is still normally a quick rate of closure where you place the flight marker on the aircraft with lag pursuit being slower and managing where your flight path marker is behind the target aircraft. Knowing this will allow you to control your incept, speed and closure rate with the enemy.

Lag Pursuit is used to stop or reverse the closure rate. Following outside the enemy turn radius, you can maintain or increase energy while forcing the enemy to turn at an energy depleting rate best sustained turn speed and hold it while chasing the enemy.

Air Combat Maneuvering (ACM)

Air Combat Maneuvering (ACM) or dogfighting is the tactical art of moving, turning and/or situating your aircraft in order to attain a position from which an attack can be made on an enemy. Air combat manoeuvres rely on offensive and defensive **Basic Fighter Manoeuvring (BFM)** to gain an advantage over an aerial opponent. You need to be good at **BFM** to be successful in **ACM**. **BFM** can be considered the individual maneuvers while **ACM** is applied to the tactics behind dogfighting as a whole.

COMMON MANEUVERS

Find below some common **BFM**. There are many others, be sure to check out this [Wikipedia](#) for more.

Immelman

An **Immelmann** trades airspeed for altitude during a 180 degree change in direction. The aircraft performs the first half of a loop, and when completely inverted, rolls to the upright position.

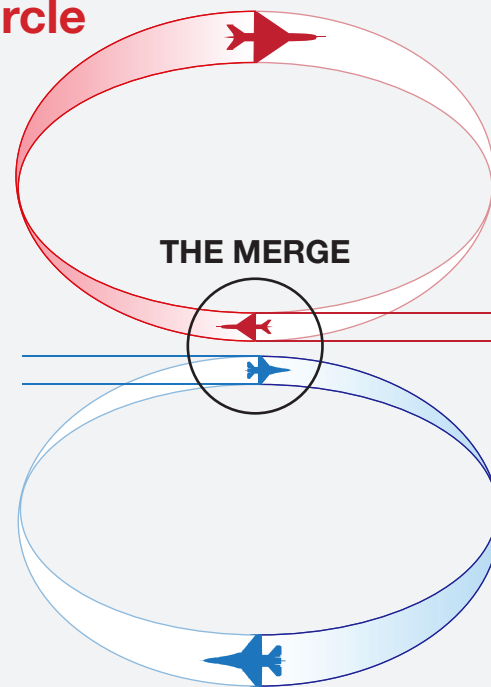
Split S

The opposite of an **Immelmann** is the **split S**. This maneuver consists of rolling inverted and pulling back on the stick, diving the aircraft into a half loop, which changes the aircraft's direction 180 degrees. The **split S** is rarely a viable option in combat, as it depletes kinetic energy in a turn and potential energy in a dive.

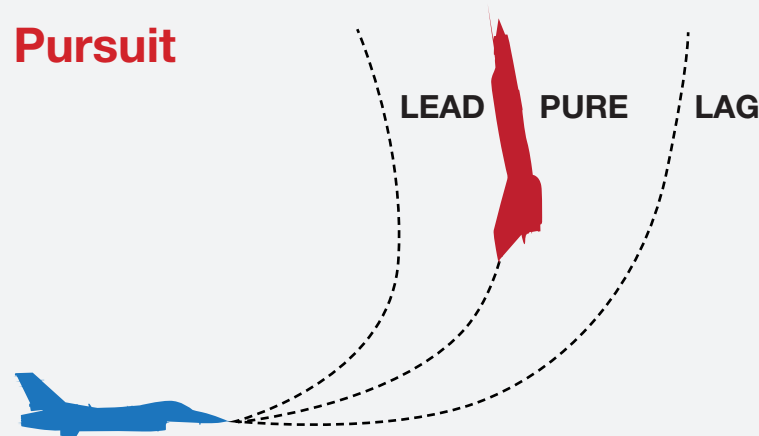
Low Yo-Yo

The **low Yo-Yo** is one of the most useful maneuvers, which sacrifices altitude for an instantaneous increase in speed. This maneuver is accomplished by rolling with the nose low into the turn, and dropping into a steeper slice turn. By utilizing some energy that was stored in the vertical plane, you can quickly decrease range and improve the angle of the attack, literally cutting the corner on the enemies turn.

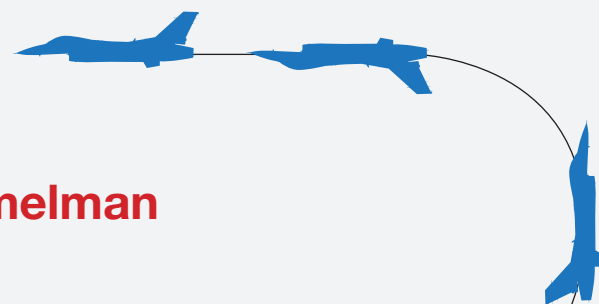
Two Circle



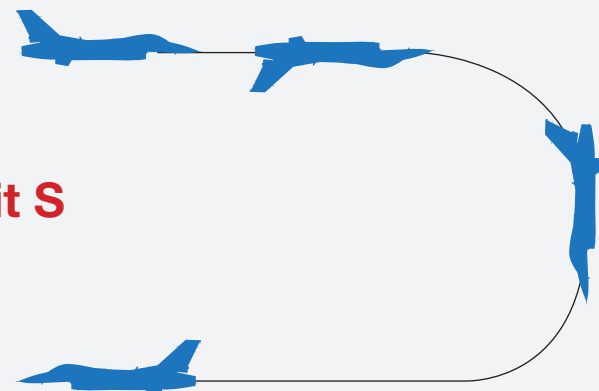
Pursuit



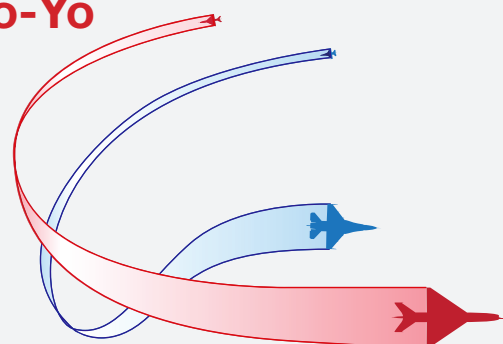
Immelman



Split S



Low Yo-Yo



High Yo-Yo

The **high Yo-Yo** is a very effective maneuver, and very difficult to counter. The maneuver is used to slow the approach on an enemy while conserving the airspeed energy. The maneuver is performed by reducing the angle at which the aircraft is banking during a turn, and pulling back on the stick, bringing the fighter up into a new plane of travel. You then roll into a steeper pitch turn, climbing above the enemy and then back down pulling behind.

Scissors

The scissors are a series of turn reversals and flight path overshoots intended to slow the relative forward motion (downrange travel) of the aircraft in an attempt to either force a dangerous overshoot, on the part of the defender, or prevent a dangerous overshoot on the attacker's part. The defender's goal is to stay out of phase with the attacker, trying to prevent a guns solution, while the attacker tries to get in phase with the defender. The advantage usually goes to the more maneuverable aircraft. There are two types of scissor maneuvers, called flat scissors and rolling scissors.

IDENTIFICATION, FRIEND OR FOE

Identification, friend or foe (IFF) is an identification system designed to interrogate an unknown aircraft and determine if it is friendly, enemy or unknown. The IFF system in **DCS** is limited to those aircraft that are modern enough to have it. Aircraft after 1960 almost always have an **IFF** system (**F-86** and **MiG-15** do not have **IFF**, but the **MiG-21** and **F-5E** do, refer to the aircraft manual or [Chuck's Guides](#) to find out more). **IFF** is most often used in concert with the aircrafts **RADAR** system.

If your aircraft has **IFF** capability, be sure to turn it on (refer to the manual), especially in **Multiplayer**. Turning on your **IFF** allow allies to interrogate you as a friendly aircraft and potentially avoid being attacked by friendly forces.

In aircraft with **IFF** systems, you often have to interrogate a **RADAR** return to determine if the contact is friendly, enemy or unknown. It is recommended in **Multiplayer** especially to visually identify an unknown or enemy aircraft before attacking to avoid destroying a friendly aircraft. Blue on Blue or friendly kills can potentially get you banned from Multiplayer servers.

KNEEBOARD

The **kneeboard** offers valuable information when seated inside the cockpit. This can be map and airbase information, weapon and INS information and more. For some aircraft, accessing the **kneeboard** pages is mandatory (the **AJS37 Viggen** for example, when setting up ground attack), especially on some multiplayer servers. Also some multiplayer servers restrict map and other information and so using the **kneeboard** is again mandatory to find out your location and more.

To access the **kneeboard**, press **R-Shift + K** or set up the key press in the settings. Press **K** for a quick glance of the Kneeboard. Also setup or know the key presses for previous and next pages and marking current location. These are helpful on multiplayer servers with limit map visibility.

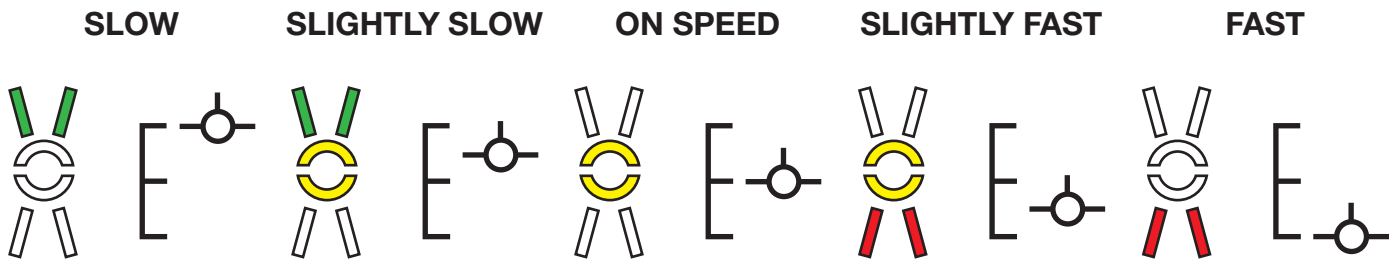
Common kneeboard pages in most modules include detailed maps and airbases for the map you are currently in, weapon information and radio frequencies.

! **SERVER SETTINGS**
Using the Kneeboard on some servers is mandatory to understand your position and with some modules, setting up the INS, ground attackand more.

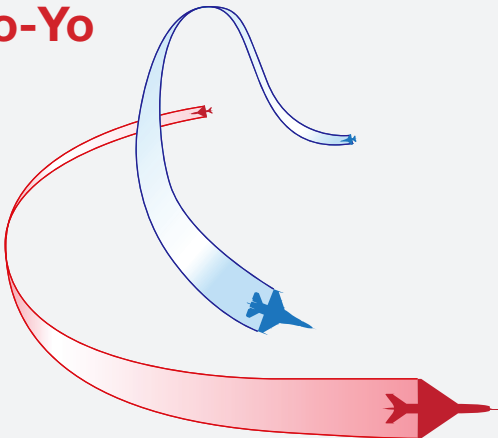
KNEEBOARD ADDITIONS
You can add more pages to the Kneeboard of a module. They added through the **Saved Games** folder on your system, under **KNEEBOARD** and the module.

AOA INDEXER

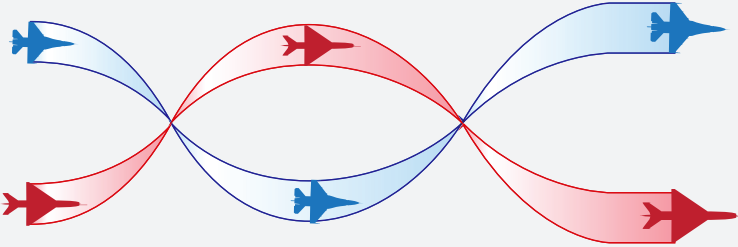
Used specifically for landing aircraft, the **AOA** (Angle Of Attack) indexer, visually represents the **AOA** of the aircraft. Understanding these will help you land at the right **AOA** and therefore speed.



High Yo-Yo



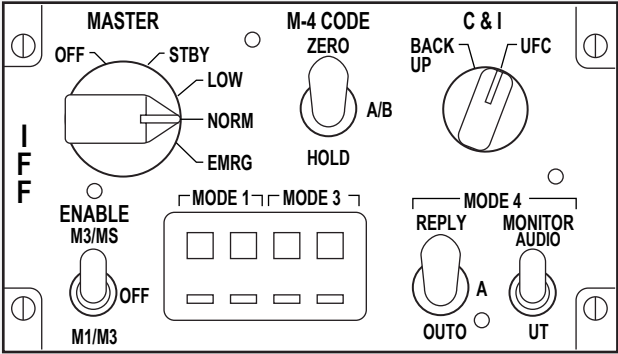
Scissors



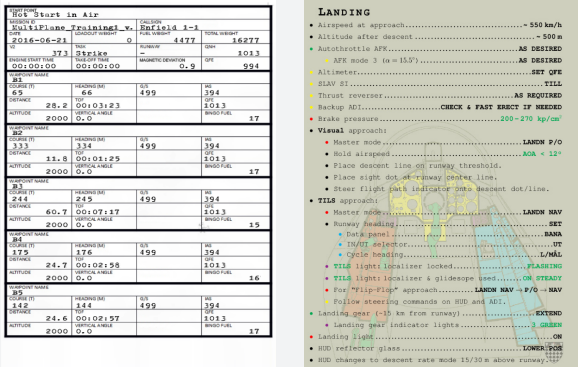
IFF Symbology in the F-16



IFF panel in the F-16



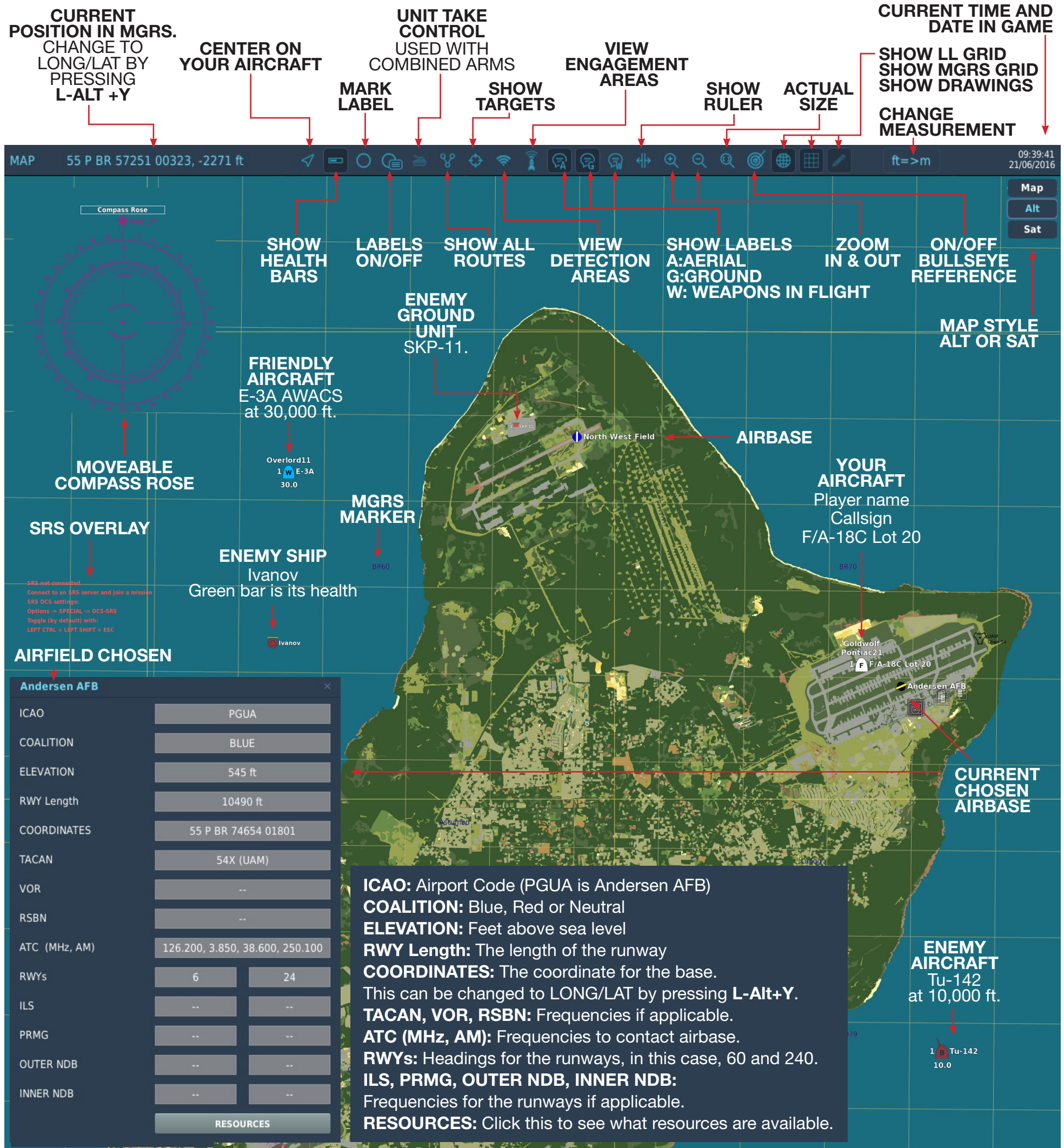
Example AJS37 Viggen Kneeboards



MAP (F10 KEY)

Understanding the **Map** is key to completing missions in **DCS**. Accessed by pressing **F10**, the map gives you all sorts of information. Your current location, the location of airbases, allied aircraft, enemy aircraft, enemy and allied ground forces and more. But depending on the mission or multiplayer server settings, some of this map information can be hidden and not shown at all.

Some multiplayer servers severely restrict what is visible on the map to make the experience more realistic. Some multiplayer servers are quite open and show a lot of information.



!

Some of the information could be hidden on the map depending on the server settings.

MARIANAS MAP

This is the Marianas map, a free map provided with **DCS**.

WEAPONS

Knowing what weapons are available and how to deploy them is crucial to completing missions in **DCS**. Not every weapon system needs to be learned but having a working knowledge of how to use them, when to use them and why is crucial. All weapons within **DCS** fall into two main categories, **Air to Air** and **Air to Ground**.

AIR TO AIR

Air to air missiles are used for the express purpose of attacking air targets. All air to air missiles in **DCS** fall under one of three categories; **infrared (IR)**, **semi-active radar** or **active radar**. **IR** missiles tracks a targets heat signature, for example the engine. **Semi-active radar** missiles need constant radar lock from the host aircraft. **Active radar** missiles have their own on-board radar and do not need a constant lock from the host aircraft. **Active radar** missiles often use the hosts own radar to initially track the target until it is in active range. Some **active radar** missiles have the option to use their on-board radar immediately after launch. The aircraft's guns or cannons are also a viable **Air to Air** weapon and also an **Air to Ground** weapon.

There are specific **brevity** codes or call outs used for each is as follows:

- Fox One:** Indicates launch of a semi-active radar-guided missile (such as the **AIM-7 Sparrow** or **R-3R**).
- Fox Two:** Indicates launch of an infrared-guided missile (such as the **AIM-9 Sidewinder** or **R-60**).
- Fox Three:** Indicates launch of an active radar-guided missile (such as the **AIM-120 AMRAAM** or **R-77**).
- Maddog:** Indicates launch of a **Fox Three** missile without radar guidance from launch aircraft. The missile will rely on its own radar.
- Pitbull:** Indicates that the **Fox Three** missile is at active range and no longer requires radar input from launch aircraft.

AIR TO GROUND WEAPONS & SYSTEMS

Missiles

Air to ground missiles are used to attack various types of ground targets, including but not limited to tanks, armored vehicles, ships, structures and more. In some instances, these missiles can be used to attack air targets, like bombers. There are different types of guidance for air to ground missiles. They include radio guided, radar guided, laser guided, anti-radiation(for attacking anti-air radars), infrared, GPS/INS, and even TV guided.

Like air to air weapons, there are specific **brevity** codes or call outs used for each is as follows:

- Bruiser:** Indicates launch of an air to ship missile.
- Duck:** Indicates launch of a tactical air-launched decoy (**TALD**).
- Magnum:** Indicates the release of an anti-radiation missile.
- Pickle:** Indicates release of a bomb or munition.
- Pig:** Indicates launch of a **JSOW**.
- Rifle:** Indicates launch of an air to ground missile.

Rockets

Rockets are always unguided, self-propelled weapons with varying sizes of warhead. Like air to ground missiles, they are primarily used to attack ground targets but can be used against large air targets like bombers. Generally speaking, the smaller the warhead, the less damage it can do but the more you can carry. Smaller rockets are usually housed in rocket pods of varying amounts (some as large as 32 rockets). Larger rockets are usually mounted alone.

Bombs

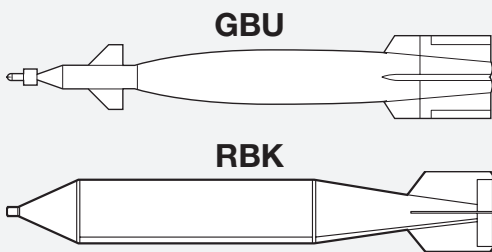
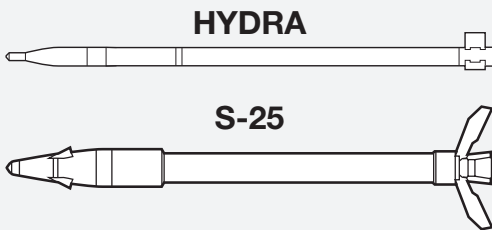
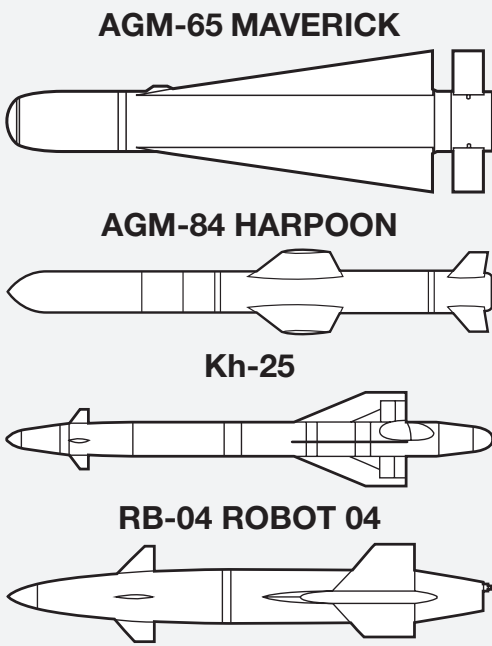
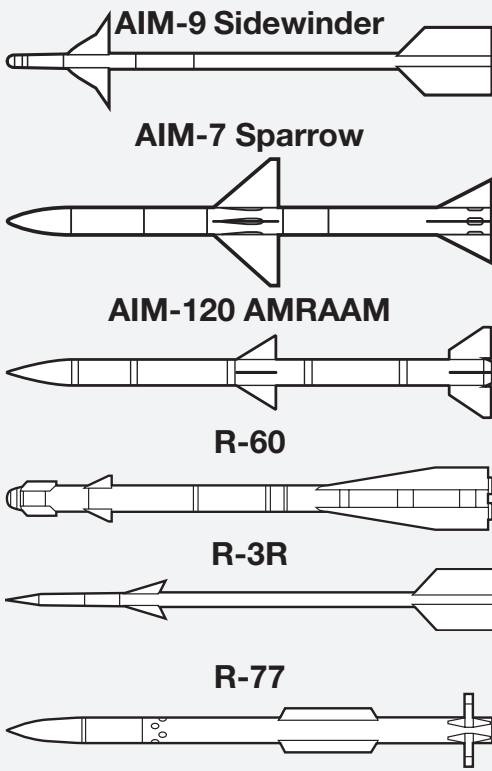
There are two main categories for bombs in **DCS**, guided and unguided. Within these two categories, bombs can have many different purposes from anti-runway, anti-armor, illumination, smoke and general destruction. Like rockets, the larger the bomb, the greater the explosive impact, but the less you can carry. Like missiles, guided bombs can be guided in multiple ways; GPS/INS, laser and TV.

PODS & FUEL TANKS

Available for most aircraft, there are different types of pods and fuel tanks. Pods can include guns (for aircraft without internal guns), targeting sensors, electronic counter measures, training aids, datalinks, jammers, munition dispensers and more. Some aircraft have multiple fuel tank options depending on the amount of fuel while some have none.

Chuck's Guides

Check out the Chuck's Guide for the aircraft you are using. The guide includes all weapon systems and how to deploy them.



WEAPON AVAILABILITY

Weapon availability is determined by the aircraft, the era or time period and, if playing multiplayer, the server settings.

WHAT ARE THEY TALKING ABOUT?

BREVITY - Find below the most commonly used and heard words in **DCS** on radio when playing in multiplayer.

A Alpha check: Request for/confirmation of bearing and range to described point.

Angels: Height of a friendly aircraft (altitude) in thousands of feet

B Bandit: An aircraft identified as enemy.

Beam: Aircraft heading perpendicular to friendly aircraft

Bingo: Minimum fuel state needed for aircraft to return to base.

Blind: No visual contact with friendly aircraft/ground position

Bogey: A radar or visual air contact whose identity is unknown.

Bogey Dope: Request for target information.

BRA, BRAA: Tactical control format providing target Bearing, Range, Altitude, or Bearing, Range, Altitude, and Aspect, relative to a friendly aircraft or bullseye.

Bruiser: Friendly air-launched anti-ship missile.

Buddy Spike: Friendly aircraft air-to-air indication on radar warning receiver (RWR); should be followed by aircraft type, position, heading, and altitude.

Bugout: Separation from that particular engagement/attack/operation; no intent to re-engage.

Bullseye: An established point from which the position of an object can be referenced; made by cardinal/range or digital format.

Buster: Directive call to fly at maximum continuous speed.

C Clean: No radar contacts on aircraft of interest.

Cold: Aircraft heading away from friendly aircraft.

Contact: Sensor contact at the stated position. Acknowledges sighting.

Crank: To maneuver beyond the range of a missile; implies illuminating target at radar gimbal limits in a beyond visual range engagement.

D Dakota: No air to ground (ATG) ordnance remaining.

Duck: Tactical air-launched decoy (TALD).

F Feet Wet/Dry: Your aircraft is currently over water (Wet) or ground (Dry).

Flank: Aircraft heading 45 degrees towards friendly aircraft.

Fox One: Launch of a Semi-active radar-guided missile

Fox Two: Launch of a Infrared-guided missile.

Fox Three: Launch of a Active radar-guided missile.

Friendly: A positively identified friendly contact.

Furball: A turning fight involving multiple aircraft with known bandits and friendlies mixed.

G Gimbal: Radar target is approaching azimuth or elevation limits. (Direction)

Guns: An air-to-air or air-to-surface gunshot.

H Holding Hands: Aircraft in visual formation.

Home plate: Home airfield or carrier.

Hot: Aircraft heading towards friendly aircraft; opposite of Cold.

I Inbound: Approximately 10-15 nautical miles out from the airport.

L Laser on: Directive to start laser designation.

Locked: Final radar lock-on.

Lost Contact/Lock: Radar or IR lock lost.

M Maddog: Indicated the launch of a Fox Three missile without radar guidance from the launch aircraft.

Magnum: Launch of friendly anti-radiation missile.

Marshal: Establish/established at a specific point

Merged: Call indicating radar returns have come together.

Mud: Radar Warning Receiver indication of ground threat.

N Nails: Radar Warning Receiver indication of an Air Intercept radar in search mode.

Naked: No radar warning receiver (RWR) indications.

No joy: No visual contact with the target, bandit or landmark; opposite of Tally.

O On station: Call that aircraft has reached assigned station.

P Pickle: Indicates the release of a bomb or munition.

Picture: Provide tactical situation status pertinent to mission.

Pig: Launch of a glide weapon (ie; JSOW)

Pitbull: Call that an active radar-guided missile is at active range and no longer requires radar input from launch aircraft.

Press: Directive to continue the attack.

Push(ing): Going to designated frequency. Departing designated point.

R Radio Check: Check that players can hear you.

Range: Distance to aircraft or bullseye.

Raygun: Indicates a radar lock-on to unknown aircraft; a request for a buddy spike reply from friendly aircraft.

Rifle: Friendly air-to-ground missile launch.

Roger: Radio transmission received; does not indicate compliance or reaction.

S SAM (Direction): Visual acquisition of a SAM or SAM launch; should include position.

Say again: Repeat last message

Shack: Ground target destroyed.

Spike: Radar Warning Receiver indication of an Air Intercept radar in track, launch, or unknown mode.

Splash: Air or ground target destroyed.

T Tally: Sighting of a target, bandit, bogey, or enemy position; opposite of no joy.

Tracking: Continuous illumination of a target.

V Visual: Sighting of a friendly aircraft/ground position; opposite of blind.

W Weeds: Indicates that fixed-wing aircraft are operating below 2,000 ft (610 m).

Wilco: Will comply.

Winchester: No ordnance remaining.

MULTIPLAYER

WingmanFinder

Want to play multiplayer with someone else or a group, check out the [WingmanFinder](#) subreddit.

Want to play multiplayer with someone else or a group, check out the [WingmanFinder](#) subreddit.

JOINING A SERVER

To join a multiplayer server, first click the multiplayer button on the main **DCS** screen. On the next screen, multiplayer servers will begin to populate the screen. You can limit the servers shown by entering specific information right below the **SERVER LIST** text. Once you have decided on a server to join, double click the server or click the server and press Join at the bottom. If the server is a grey color, you cannot join it.

Star icon: This is for favorited servers. If you have a favorite server, you can click the star icon to the left of the server and **DCS** will remember this each time you play for quick access to those servers.

Lock icon: This means the server is password protected.

Shield icon: This means the server is running protection against cheating.

Exclamation icon: This means Trial-only clients are allowed. This means the server allows players with trial modules installed. Without this icon, the server will not allow players with trial modules.

Ping: Try to choose servers that have lower Ping numbers. The lower the number the better the internet connection.

Country Flag: This is the country the server is based.

Server name: The name of the server, searchable at the top.

Map: The current map being played on the server. You need to have this map to play in the server.

Mission Name: This is the current mission in the server, this can be a wide number of missions and often alludes to what the mission entails. Some of the most popular are the **PVE Through the Inferno** and **PVE Liberation**.

Players: The amount of players varies from server to server with some having none to some being full. All servers have a minimum of 1 player, therefore if you join a server with 1 player, most likely you will be on your own. This is not the case when joining a friends server.

Elapsed Time: This is the time the mission has been played. Can be sometimes helpful to determine if a mission will end soon.

Time in mission: This is the current time in the actual mission, this is used to determine if the mission is a day or night mission.

! SRS IS REQUIRED
SRS is needed to login to some multiplayer servers. While some servers do not need SRS, it is a recommended program to use when playing **DCS** multiplayer.

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DCS Version

Refres hlist

Connect to a specific IP

Your call sign

MULTIPLAYER

2.8.0.32066

SERVER LIST

SERVICES/PLAYERS: 429/984

CONNECT BY IP

Goldwolf 1-1

Limit the servers shown by the above

Choose Map or Region

Search server by name Only show Favorite Servers

Favorite servers Ping

Server name

Map

Mission

Elapsed time and time in mission

*★☆☆	Ping	Server Name	Map	Mission Name	Players	Elapsed time	Time in mission
★☆☆	53	Enigmas Dynamic Cold War Campaign PVP/PVE	Caucasus	cold-war-northern-eye-production-v151_sudusk	64/70	0/2:18:30	19:18
★☆☆	50	Hoggit - Marianas Training Map	Marianas	MarianaraTrainingMapV0.2	5/40	0/1:22:58	8:27
★☆☆	281	出相DCS服务器	Caucasus	DCS服务器招租(联系Q群139135523)	1/64	0/0:01:01	8:01
★☆☆	150	2 HavocCompany PG VAF	Persian Gulf	Weapons_Training_Freelight_pg_v1.02.29	1/50	0/0:08:26	14:08
★☆☆	280	飞发站03服	Persian Gulf	波斯湾	1/50	0/3:32:45	11:32
★☆☆	156	LA FUNDACION SERVER ALFA (DEDICADO 24H)	Persian Gulf	高加索训练任务组(冬季、白天)	1/50	0/2:23:12	11:23
★☆☆	156	LA FUNDACION SERVER BRAVO (TORRENTA 24H)	Nevada	Operation.Snowfox.LF.V1.5-1	1/64	0/0:47:09	9:17
★☆☆	106	Through The Inferno CB Test Server (107th-NORCAL)	Caucasus	Torment.NTTR_CB_2_V4	1/48	0/0:49:48	10:49
★☆☆	84	Through The Inferno Dynamic PVE (107th-SOCAL)	Caucasus	Magic Potions LAUNCHER	1/64	0/0:00:00	8:00
★☆☆	85	Through The Inferno Dynamic PVE (107th-SOCAL)	Syria	Through The Inferno SYRIA v3.1.6	1/107	0/1:26:52	6:41
★☆☆	83	Through The Inferno Dynamic PVE (107th-SOCAL)	Caucasus	Through The Inferno CCS v2.1.5	1/4107	0/5:05:37	12:35
★☆☆	91	Through The Inferno Dynamic PVE (107th-SOCAL)	Railkards	Through The Inferno MJ v1.1.6	9/107	0/0:56:03	7:11
★☆☆	174	GENA PILOT rTOR GEN= Heli Fitness (by Board 046)	Nevada	Through The Inferno SK v1.0.5	1/107	0/3:30:10	9:30
★☆☆	253	JG78 Training - www.jagdeschneider78.com - Server 1-1	Caucasus	Through The Inferno NTTR v2.1.4	1/107	0/2:44:22	3:14
★☆☆	130	JG78 Training - www.jagdeschneider78.com - Server 1-1	Caucasus	Server fitness trainedfield 7.0	1/60	0/0:57:13	8:57
★☆☆	126	JG78 Training - www.jagdeschneider78.com - Server 1-2	Caucasus	Through The Inferno CCS v2.1.4	1/30	0/0:00:00	9:30
★☆☆	257	ANZUS Operations Server	Caucasus	JG78_Flightschool Training 4.2.realweather	1/100	0/2:01:49	21:50
★☆☆	249	ANZUS Public Server	Caucasus	G SENAKI-MOZDOK 61527	1/100	0/2:02:26	12:02
★☆☆	70	IIPVE Server #111---by Stix	Caucasus	ANZUS Black Sea Campaign 2022 Weather-V 1.5.6	1/32	0/2:38:08	13:08
★☆☆	66	#sierrahotel - Caucasus	Caucasus	ANZUS Public Server Mission V1.26 Morning	1/32	0/2:36:42	10:11
★☆☆	42	*** JTF-1 Closed Beta Server ***	Caucasus	PVE Caucasus---by Stix	4/40	0/4:13:09	11:13
★☆☆	42	*** JTF-1 Dedicated Server 6 ***	Caucasus	SHTM V7 - Summer	1/65	0/2:07:10	9:52
★☆☆	57	*** VCW3 NITR SERVER ***	Caucasus	JTF-L No_Mods_Caucasus.Weather	1/64	0/0:29:50	15:29
★☆☆	49	***VCW3 Blue Water Ops***	Nevada	DSMC_Clear_Field_109	1/64	0/2:50:25	8:50
★☆☆	51	****VCW3 RED FLAG Server ****	Syria	VAF_AT_NITR	1/30	0/0:00:00	7:15
★☆☆	208	-- OIA Caucus Foodthold Reimagined! Fox3ms.com V6-95	Syria	VCW3 - Syria Workups	1/20	0/0:00:00	14:00
★☆☆	249	-- DCS 한국공식커뮤니티 '1st [JTW]' Dedicated - Free Flight --	Normandy	VCW3 PW WWII Dog Fight	1/20	0/0:00:00	8:00
★☆☆	128	-- DCS 한국공식커뮤니티 '1st [JTW]' Dedicated - Mercenary --	Caucasus	Caucus_Foodthold_Reimagined_Herc_NewCTLDVS	1/40	0/1:16:01	9:41
★☆☆	129	-- Jolly Rogers - Training Server I --	Caucasus	Free flight mission Caucasus v3.4.3	1/36	0/0:51:15	10:11
★☆☆	129	-- ROG -- Alpha Caucasus	Marianas	Op.Leviathan_v6.6.Openbeta	1/30	0/0:40:03	14:40
★☆☆	124	-- ROG -- Foxtrot TheChannel	Caucasus	Training V2.7	1/24	0/4:43:44	18:23
★☆☆	137	-- Kirks Hangar 2 --	Caucasus	Foodthold_Caucasus_1.4	1/32	0/0:01:10	8:31
★☆☆	251	-- SAAF2 --	The Channel	Fortress_Europe_by_Reflected_Simulations	4/32	0/2:13:10	9:13
★☆☆	232	-- 名匠中队 --	Caucasus	Kirks Freelflight autumn clouds and wind 2.1.5	10/40	0/1:23:44	14:23
★☆☆	121	11F	Caucasus	Caucasus_Training_-_All_planes-Moose_V24	1/32	0/1:57:30	8:17
★☆☆	213	13th Virtual Air Command	Caucasus	-- 名匠中队 - 战役任务小战并在阿布哈兹上空	1/16	0/0:01:14	12:01
★☆☆	138	154 th Gruppo Virtuale "Diavoli Rossi"	Syria	Foodthold_Syria_1.0.3	1/16	0/2:30:43	7:30
★☆☆	257	161 SQN: Heart of Gold	Caucasus	13thVAC_CATRA_Clear	1/16	0/2:33:34	11:33
★☆☆	67	16AGR Training	Syria	Palestra del 154 th v1.4	1/16	0/0:18:28	7:18
★☆☆	245	1668今天开黑海	Caucasus	161SQN_CAU_Confusion2	1/25	0/0:52:19	18:22
★☆☆	56	175th MAG Public Server-24/7 Operations	Caucasus	DSMC_FARP_Hollywood_Alt-64D	1/32	2/1:20:11	11:20
★☆☆	46	1st vAEW	Caucasus	海训场地面新航3.1.6 附带轻普少女主题电台(Developer-T Editio	1/64	0/5:33:45</	

The screenshot shows the Arma 3 main menu interface. At the top, two red arrows point to the labels 'Server & Mission Description' and 'Server information'. The menu is divided into two main sections: 'Server Description' and 'Mission Description' on the left, and 'Server information' on the right. The 'Server information' section lists various game settings and options, including 'Cockpit Visual Recon', 'Easy Flight', 'Game Avionics Mode', 'Padlocks', 'Radio Assist', 'Unrestricted SATNAV', 'Mini HUD', 'G-effect', 'Options View', 'External Views', 'Easy Communication', 'Unlimited Fuel', 'Unlimited Weapons', 'Labels', 'Wake turbulence', 'Integrity Check', 'Permissions', 'Allow object export', 'Allow sensor export', 'Allow player export', 'Allow to change skins', 'Changing Tail Number', 'Allow to screenshot clients', 'Allow voice chat', 'Allow Players Pool', 'Overlays', 'Battle Damage Assessment', and 'Cockpit Status Bar'. At the bottom, three red arrows point to the buttons 'EXIT', 'NEW SERVER', and 'JOIN'. The 'EXIT' button is labeled 'Exit Multiplayer', 'NEW SERVER' is labeled 'Create a new server', and 'JOIN' is labeled 'Join server'.

CREATING A SERVER

To start your own server, click **NEW SERVER** at the bottom.

The following information will need to be completed:

Server Name: Can be anything.

Password: If you want one, helpful to use when you only want specific people to join the server

Player limit: Limited the amount of player on the server. The more players, the slower the server will run, especially if you are not running a dedicated server.

Public IP: This is the IP address to connect to your server. This is given to specific people to join the server.

Mission list: Missions need to be added here that will be played on the server. Multiple missions can be included.

Start: Once ready, click the start button to begin the server. Once the map is loaded fully, other people can join.

If hosting only a few players, you can fly in the server you created along with other players. Internet connection speed and Ping will play a factor in the quality of the experience.

Dedicated Server

While it is possible to create a dedicated server for DCS, this is beyond the scope of this beginners guide.

Ports

To run your own server, you need to be sure that the following ports are open to accept client connections. This will need to be configured in your network and **Windows** firewall and/or router.

PORT		PROGRAM	INFORMATION
10308		DCS Client	Port that DCS needs to allow an external person to join your server.
8088		WebGUI	Port used for a dedicated DCS server.
42674	42675	TacView	Port used by TacView, if installed, to track information.
5002	5003	SRS	Port used by SRS, if installed, to connect to radio communications.

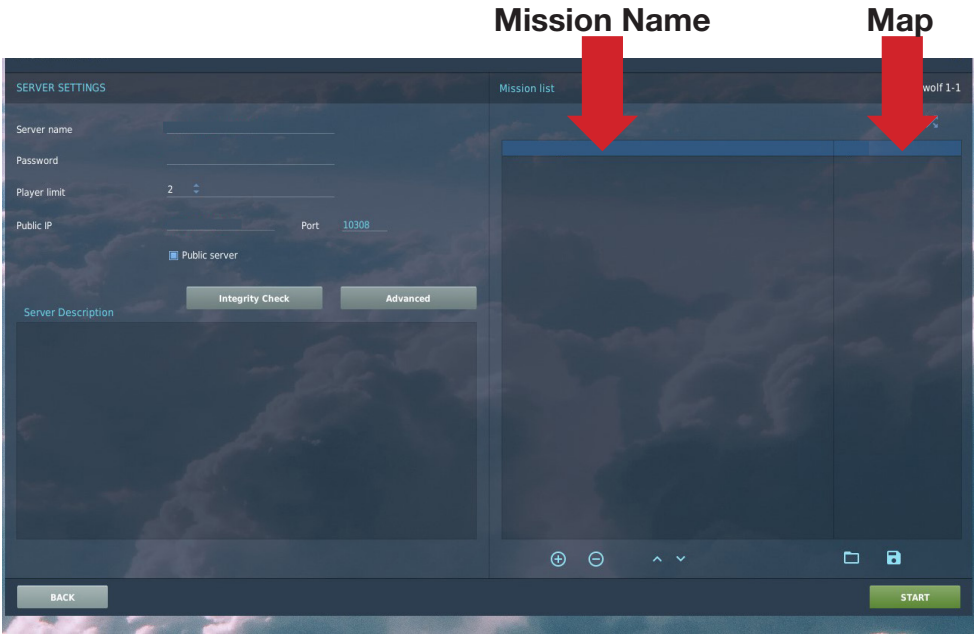
Troubleshooting

If no one can connect to the server created, check that Anti-virus software is not blocking **DCS**. Do not use a **VPN** if you are hosting.

Make sure all players are using the same version of **DCS** and have fully updated.

You can use a free tool at [CanYouSeeMe.org](https://canyuseeme.org) to check whether the ports above can be seen from outside the firewall.

For further information on setting up your own server, please check out this [website](#).



PLAY IN YOUR OWN SERVER

It is possible to play in your own server and have others join it, however your internet connection and ping will factor into the quality of the experience.

ZEROTIER

Zerotier is a program that allows you to create secure networks between anyone anywhere in the world. This program can be used in concert with **DCS**. Zerotier is free for 1 admin but for more, there is a monthly fee.

PEOPLE UNABLE TO CONNECT?
In my experience, if people are unable to connect to your server, the likely culprit is your firewall, whether that is in your internet router or Windows Firewall.

CanYouSeeMe.org

Open Port Check Tool

This is a free utility for remotely verifying if a port is open or closed. It is useful to users who wish to verify port forwarding and check to see if a server is running or a firewall or ISP is blocking certain ports.

Your IP:

Port to Check:

Common Ports	
FTP	21
SSH	22
Telnet	23
SMTP	25
DNS	53
HTTP	80
POP3	110
IMAP	143
Other Applications	
Minecraft	25565
Remote Desktop	3389
PC Anywhere	5631

POPULAR SERVERS

Georgia At War (GAW)

A dynamic **PVE** mission that pits players against a custom-scripted AI Redfor Commander who will direct enemy forces to stop your advances. The mission

set in the Caucasus map also features real world weather that is set at every restart, as well as persistent state saving between sessions. Almost all jet aircraft and helicopters are available to play. This server is password protected. Please visit: <https://discord.gg/hoggit> to learn more.

Name: Hoggit - Georgia At War

Persian Gulf At War (PGAW)

Just like **GAW**, **PGAW** is a dynamic **PVE** mission that pits players against a custom-scripted AI Redfor Commander that is set in the Persian Gulf. The mission has the same feature set as **GAW**, but with the added requirement that **SRS** is mandatory. The Persian Map module is needed to play this server. Almost all jet aircraft and helicopters are available to play. This server is password protected. Please visit: <https://discord.gg/hoggit> to learn more.

Name: Hoggit - Persian Gulf At War

Hoggit Training Server

This is a beginner friendly training server that offers a wide variety of both static and dynamically spawnable targets. This allows you to train at your current skill-level across every module that **DCS** has to offer. This training takes place in the Caucasus map. This server is password protected. Please visit: <https://discord.gg/hoggit> to learn more.

Name: Hoggit - Training Map

Enigma Cold War Server - Dynamic

This is an great **PVP/PVE** cold war scenario with both sides fighting to control a map. Maps vary and all aircraft and weapons are limited to the Cold War era. While the **F10** map can be utilized and used to find yourself, all other aircraft are hidden including allies. Also no external views are possible. To find out more about this server, click the video image to the right or go to their **Discord** channel at <https://discord.gg/3ZMtnKmkh>

FAQ

Blue Flash Cold War Server - Dynamic

Made by the same team that bought you the Enigma Cold War server. This is an early modern **PVP/PVE** scenario with both sides trying to complete various missions. Again all aircraft and weapons are limited but overall much more modern than the Cold War server. While the map can be utilized, all aircraft are hidden including allies and your own location. Also again no external views are possible. For navigation help, it is recommended to use the **Kneeboard** and marking your location on it. These can be utilized by finding the key press options in the control settings. **Discord** channel at <https://discord.gg/5kqzYknuBW>

FAQ

ShadowReapers Dynamic Campaign

A new and unique **PVP/PVE** cold war scenario with aircraft prominent in the 80s. This server integrates AI bots and players, with lots of different mission types.

FAQ

Buddyspike Blue Flag 80s Caucasus

A **PVP/PVE** cold war scenario with aircraft prominent in the 80s, including the A-10C2, AV-8B, F-16C and more.

4YA Training Servers

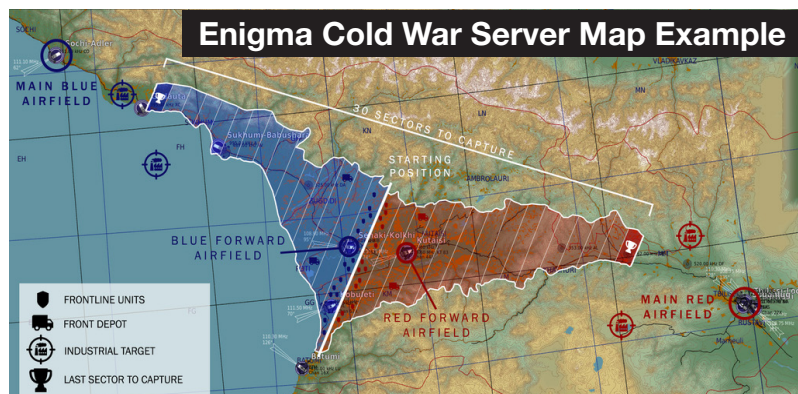
Training servers with multiple maps perfect for training.

FOLLOW SERVER RULES

While almost all servers are beginner friendly, there are universal rules to follow: No team killing at all, no taking off on taxi ways, respect all members, no racism and limited profanity, usually no spam or outside promotion. Violating one of these rules can get you banned from the server. As long as you don't do the above, you can join a server regardless of your skill level. For a more beginner friendly server, try the Hoggit Training server. The server has almost every aircraft and various targets to practice. The perfect environment for beginners, where many players will often help if asked.

LIMITED AIRCRAFT

Some aircraft have limited access on some servers. Check the server information before joining.



SRS IS REQUIRED

SRS is needed to login to some multiplayer servers. While some servers do not need SRS, it is a recommended program to use when playing **DCS** multiplayer.

MULTIPLAYER IS HARD

From personal experience, multiplayer especially PVP is difficult. I have been shot down by almost every enemy aircraft, helicopter and anti-air system. It takes time and practice to become competent.

TROUBLE SHOOTING

The module you purchased is not there

Be sure that the latest version of DCS is installed. Load up DCS and click the Module manager icon. A new download box should appear for your module. If still not working, reach out to the DCS creators.

The DLC/Campaign you purchased doesn't work

Be sure you have all of the required modules including maps, as some campaigns require specific maps and other DLC items.

Mission/Campaign isn't working correctly

See above item but also check your settings. Sometimes having special items turned on (like easy comms, or immortality) can cause scripts to not work correctly. Review any documentation with the mission/campaign prior to starting.

I can't join a Multiplayer Server

Be sure you are running the latest version and it is up to date. In some instances, you might need the required map, DLC and/or module(s) to join.

DCS is lagging significantly

Dial back the video quality settings and retest. Also note, wake turbulence can cause system slow down especially with formation flying. Turn this off and see if that helps.

Still having problems?

Check out the support page for **DCS** [here](#). Also you can go to the **DCS** [forum](#) to find solutions and ask questions. DCS also has a [Discord](#).

FINAL WORDS

Finally I would like to thank again my patrons, whose support helped me to build this guide:

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If you have any additions, feedback, any input on this guide and how to make it better. Please don't hesitate to reach out to me on my [Patreon Page](#) or contact me on Discord at Goldwolf (goldwolf7063).

Last but most importantly, have fun. **DCS** is amazing and the closest you can get to actually being a fighter pilot without going through the military.

I hope to see you in the sky, all the best Goldwolf!

GLOSSARY

AAA - Anti Air Artillery.

AWACs - Airborne Warning and Control System. An aircraft with a large radar on top.

BOGEY DOPE - A radio call out requesting the locations of enemy aircraft, usually sent to an AWACS or GCI.

BRAA - Means Bearing, Range, Altitude and Aspect. This information is given via radio from an AWACs or GCI.

BLUFOR - The term used to denote NATO and allies aircraft and systems. Countries such as the US, UK, Canada, France and others.

BREVITY - The term used for the radio language used for specific radio call outs.

BULLSEYE - a reference point somewhere usually near the target area that allies can use to understand where an enemy is without revealing any single friendly location.

BVR - Beyond visual range.

BUTTON BOX - A piece of hardware with multiple physical buttons, sometimes homemade, sometimes purchased.

CHAFF - An aircraft countermeasure made up of aluminum stripes. Used to defeat Radar.

CHUCK'S GUIDES - An invaluable guide and resource for almost every aircraft in DCS. These guides cover almost every aspect of a specific aircraft.

DCS - Digital Combat Simulator.

DEADZONE - An area in a joystick, throttle or another axis that tells the system to disregard input information when in the deadzone. Most sticks, for example, are not completely zeroed and this implements a zero.

EA - Early Access. In DCS, some modules are not fully feature complete and continue to receive updates. Once all features have been implemented, the module moves out of Early Access. Quite often, Early Access modules have a price discount.

ECM - Electronic Countermeasures. A system that uses various electronic methods to jam the enemy and in some instances missiles.

GAW - Georgia At War Hoggit server

GCI - Ground Controller Intercept(ion). A ground based Radar system.

HEADTRACKING - A piece of hardware that physically tracks your head movements and correlates these movements to head movements in **DCS**.

HOGGIT - The Hoggit subreddit specific servers.

HOTAS - An acronym for **Hands On Throttle-And-Stick**. A two part piece of hardware that includes the joystick and the throttle.

HSI - Horizontal Situation Indicator. Found on the instruments in the cockpit of an aircraft.

IR - Infrared. Most commonly used in DCS to refer to an IR missile. A missile that tracks a targets heat signature rather than Radar.

KNEEBOARD - A handy document that can be displayed on screen when in an aircraft. The information can include maps, airfields and more.

LOW FIDELITY - An aircraft that has no clickable cockpit and simplified flight systems. These can be easier to fly but lack the depth of other modules and the actual aircraft.

MANPAD - Man Portable Air Defense Systems. A light weight anti-air missile carried by soldiers and some vehicles. These IR missiles have limited range.

MODULE - The term used in **DCS** to denote an aircraft or map.

MULTIROLE - An aircraft that can perform a wide range of missions due to the weapon systems available. These missions include both air to air and air to ground.

MWS - Missile Warning System. A system only on a few aircraft that warn you of a missile launch, including IR missiles.

NOTCHING - To fly perpendicular to an enemy missile to defeat its Radar system.

NTTR - The Nevada Test and Training Range map.

PGAW - Persian Gulf At War Hoggit server

PING - A number representing the quality of the internet connection to a server. The lower the number, the better the connection.

PODS - A piece of equipment carried by aircraft. Pods can include guns, targeting sensors, electronic counter measures, and more. Pod availability is dependent on the aircraft and the multiplayer server.

PVE - Player Versus Environment. A multiplayer server where you attack other aircraft being controlled by AI, not real people.

PVP - Player Versus Player. A multiplayer server where you attack other aircraft being controlled by real people.

RADAR - RAdio Detection And Ranging. A system that emits energy to detect other aircraft. Sent out either from an aircraft radar or from a ground radar.

REDFOR - The term used to denote Russian and allies. Countries such Russian, China and others.

RWR - Radar Warning Receiver.

SA - Situational Awareness. A general term that refers to a pilots awareness of whats around them.

SAM - Surface to Air Missile System.

SRS - Software that integrates into the DCS communications that allows easier communications with multiplayer servers.

STREAM DECK - A piece of hardware, like a button box, that is easily customizable.

STT - Single Target Track. a type of Radar tracking.

TRAINER - An aircraft used mainly for training pilots with various systems, some can be used in an offensive capacity.

TWS - Track While Scan. A more advanced type of Radar processing.

VPN - Virtual Private Network. VPNs encrypt internet traffic and disguise your online identity.

WARBIRD - Aircraft that were flown in World War 2.

WVR - Within visual range.