

**DCS** DIGITAL COMBAT SIMULATOR

# Mi-8MTV2

## Magnificent Eight



# QUICKSTART MANUAL



THE FIGHTER COLLECTION



Eagle Dynamics

# Health Warning

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

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

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

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

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

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

# INSTALLATION AND LAUNCH

Place the Setup.exe file and all .bin files in the same folder and double click on the Setup.exe file to begin installation. Then follow the on-screen instructions.

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

## Launching DCS: Mi-8MTV2

After installation, you will have two icons on your desktop, DCS World and DCS World Multiplayer.



DCS World is the PC simulation environment that the Mi-8MTV2 simulation operates within. When you run DCS World, you in turn launch DCS: Mi-8MTV2.

The DCS World icon starts the game in single-player mode, and the DCS World Multiplayer starts the DCS multiplayer interface.

As part of DCS World, the Su-25T Frogfoot attack aircraft is also included for free.

After executing the DCS World icon on your desktop, the DCS World Main Menu page is opened. From the Main Menu, you can read DCS news, change your wallpaper by selecting either the Mi-8MTV2 or Su-25T Frogfoot icons at the bottom of the page, or select any of the options along the right side of the page. To get started quickly, you can select Instant Action and play any of the missions listed in the Mi-8MTV2 tab.

## Game Problems

If you encounter a problem, particularly with controls, we suggest you back up and then delete your *Saved Games\User Name\DCS\Config* folder, which is created by DCS on your operating system drive at first launch. Restart the game

and this folder will be rebuilt automatically with default settings, including all of the controller input profiles.

If problems persist, we suggest consulting our online technical support forums at <http://forums.eagle.ru/forumdisplay.php?f=251>

## Game Manuals

Additional documentation for DCS: Mi-8MTV2, including the complete Flight Manual and a key commands guide can be found in the *Mods\aircrafts\Mi-8MTV2\Doc* folder of the game installation directory.

## Useful Links

### DCS Homepage:

<http://www.digitalcombatsimulator.com/>

### DCS: Mi-8MTV2 forum:

<http://forums.eagle.ru/forumdisplay.php?f=279>

### DCS Wiki:

[http://en.wiki.eagle.ru/wiki/Main\\_Page](http://en.wiki.eagle.ru/wiki/Main_Page)

# ACTIVATION AND DEACTIVATION

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

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

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

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

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

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

CPU ID: 13

Windows PID: 3

Computer Name: 3

Hard drive volume serial number: 3

MAC address: 6

RAM amount: 6

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

For further details on the copy protection system, please see the StarForce FAQ:

<http://www.star-force.com/support/users/group2.php>

In addition, a step-by-step (de)activation guide is available below:

<http://www.star-force.com/support/users/group4.php#6>

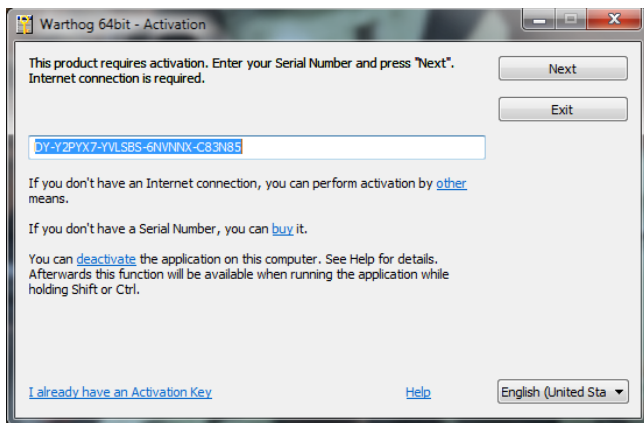
## Automatic Activation

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

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

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

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



The Automatic Activation is now complete.

### OTHER ACTIVATION METHODS

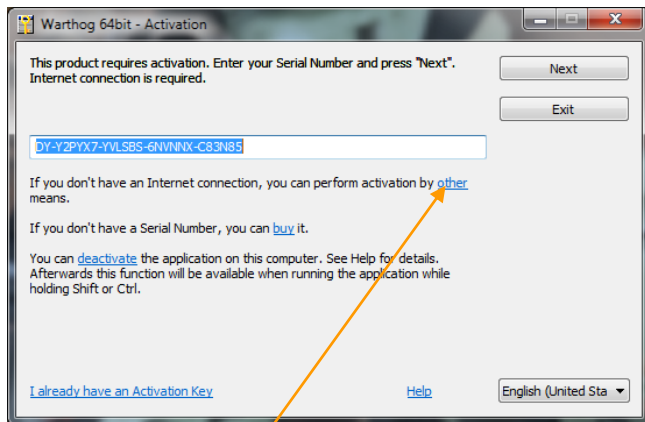
If the automatic process fails, you may use one of two other activation means (Internet connection is necessary for both):

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

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

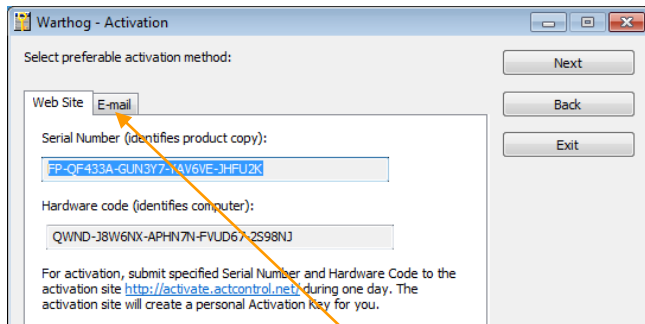
## Activation via E-mail

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



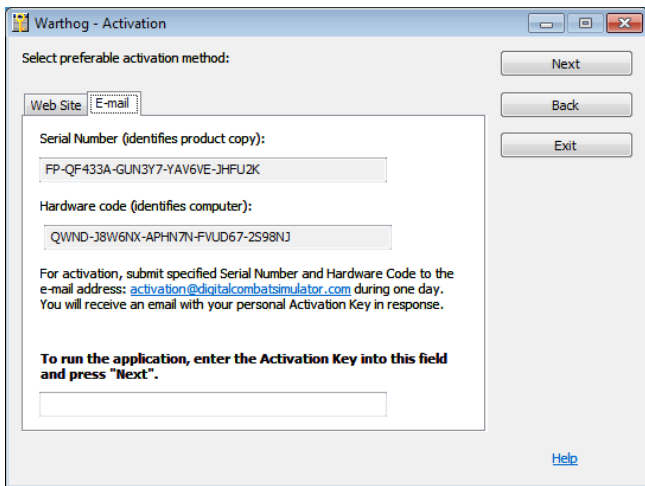
Press the **Other** link

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



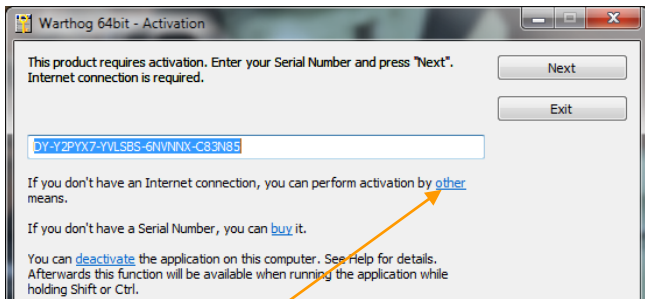
Press the **E-mail** tab

If you cannot send an e-mail now, copy your Serial Number, Hardware Code, and e-mail address shown in the Information window.



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

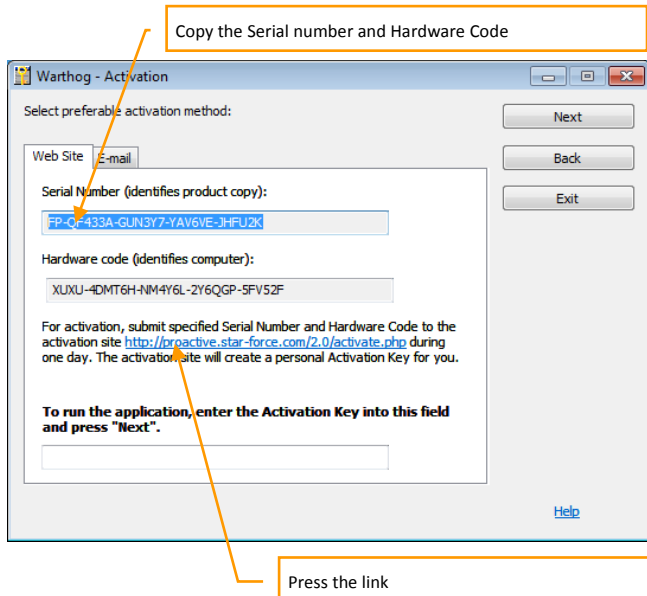
Activation via ProActive Web-site. If the automatic activation fails, press the **Other** link in the Activation window.



Press the **Other** link

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





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

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

Enter the Serial Number

Enter the Hardware Code

Obtain an Activation Key to run and use the product on your computer. To obtain the key, you will need the Serial Number for the product and a Hardware Code generated automatically by the application at startup. To restore the deactivated product (if license, specify additionally a Deactivation Code obtained during deactivation of the product). If you have any questions, please contact the product technical support.

Serial Number:  
Enter your Serial Number for the product.   
[Serial Number parameters](#)

Hardware Code:  
Enter a Hardware Code

Deactivation Code:

To reactivate the product on your computer, enable this field and enter a Deactivation Code obtained during deactivation of the product.

Copyright © Protection Technology, 2003-2009. All rights reserved.

Press the button

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

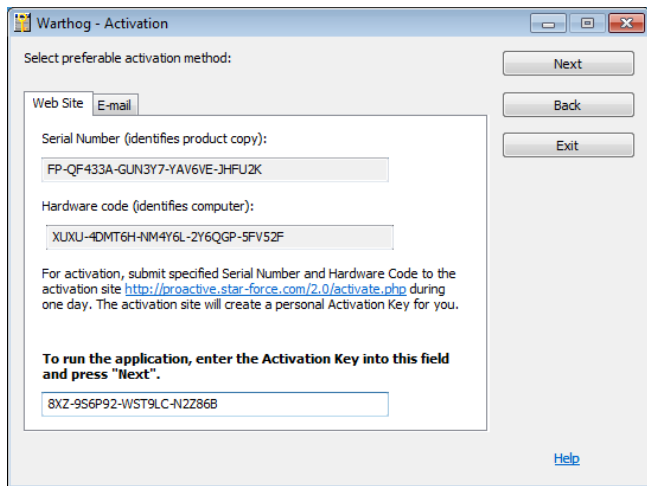
The Activation Key has been successfully generated. Write it down or save to a file for further input when running the application. Activation Key:

License parameters:  
Activations left: 7

If you have questions regarding product activation/deactivation, refer to the 'Information' section or contact product technical support.

Copyright © Protection Technology, 2003-2009. All rights reserved.

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



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

## Deactivation

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

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

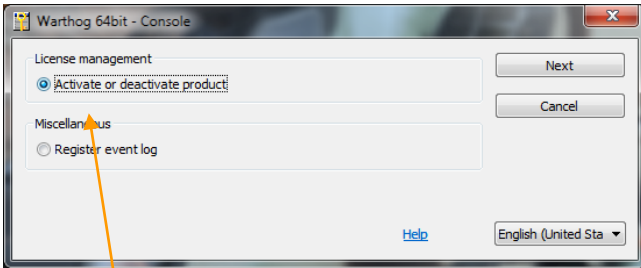
The Automatic Deactivation

Deactivation via ProActive Web-site

### The Automatic Deactivation

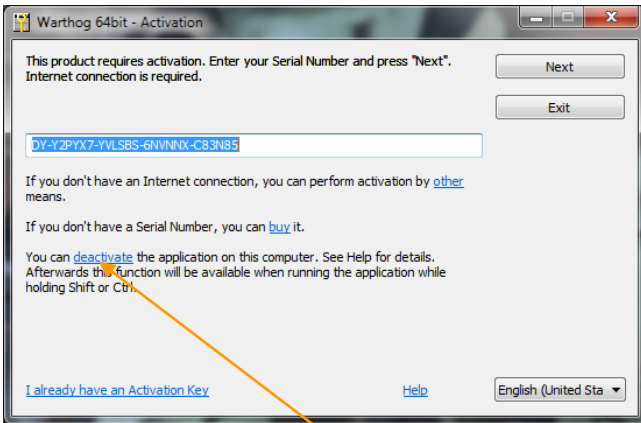
Run the **<aircraft name>\_protect.exe** file, which is located in associated aircraft folder into DCS World\Mods\aircraft folder. For example, the P-51D Mustang: DCS World\Mods\aircrafts\P-51D\bin\x86\_64\p51\_protect.exe

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



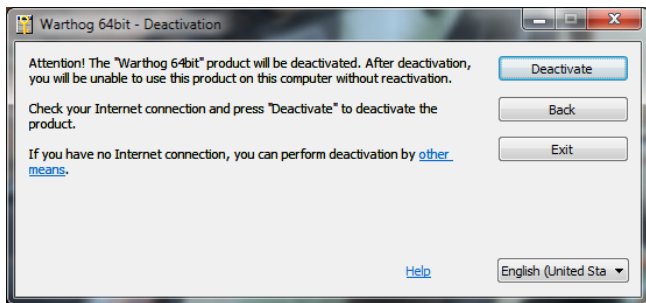
Select **Activate or deactivate product**

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

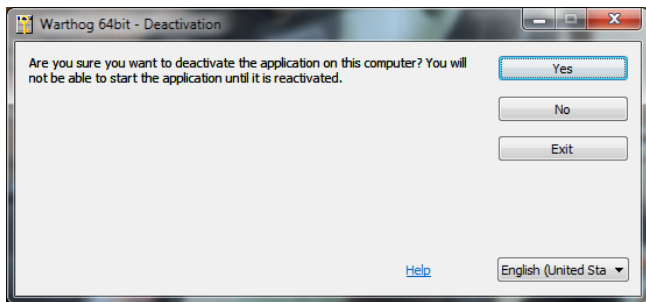


Press the **Deactivate** link

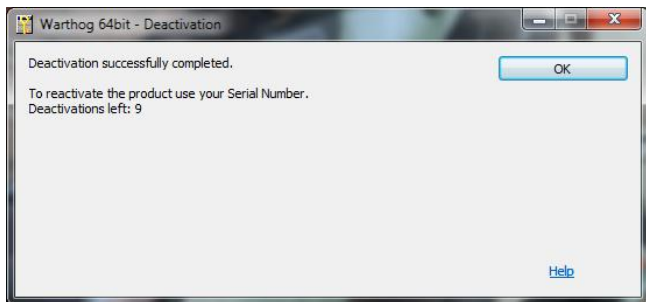
After pressing the **deactivate** link a window requesting deactivation confirmation is displayed.



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



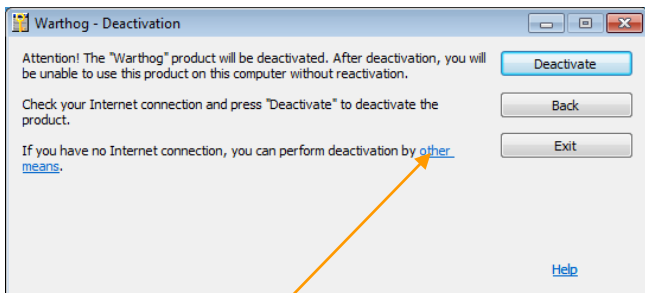
Press **Yes** button to begin the deactivation process.



Confirm the application deactivation with the **OK** button.  
**The Automatic Deactivation is now complete.**

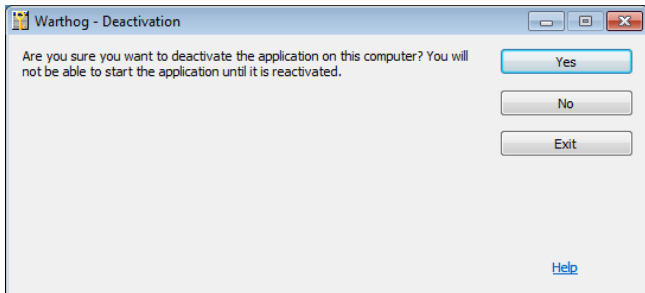
## Deactivation via ProActive Web-site

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

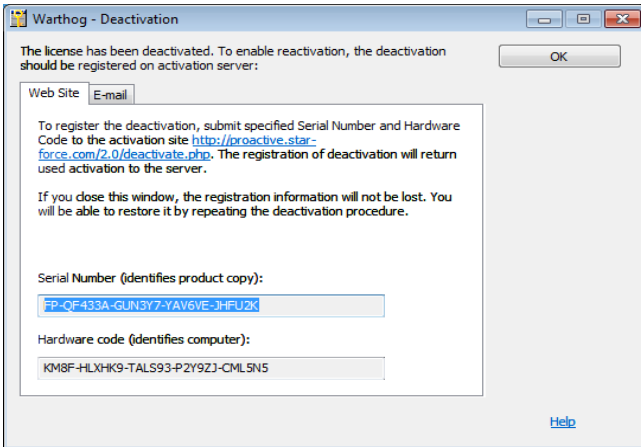


Click **other means** link

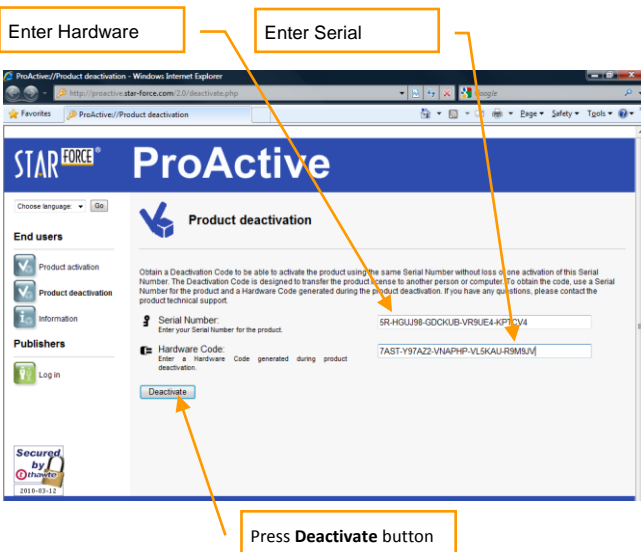
Press **Yes** button to begin the deactivation process.



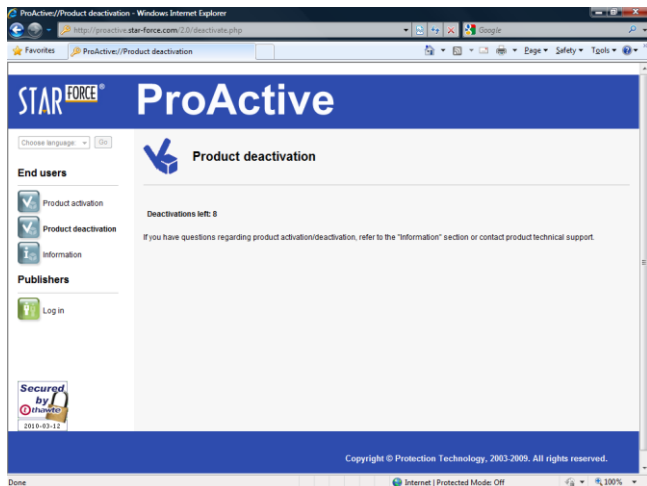
In the next window you should click <http://proactive.star-force.com/2.0/deactivate.php> link to go to ProActive Web-site.



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



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



Deactivation via ProActive Web-site is now complete.

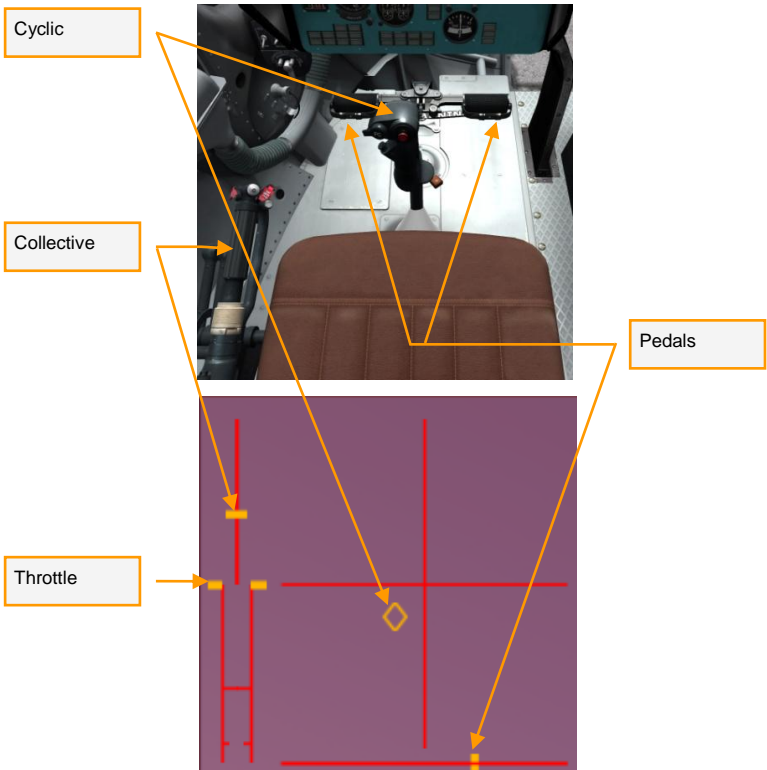
LAN and Internet play require Internet Authorization



# HELICOPTER CONTROLS

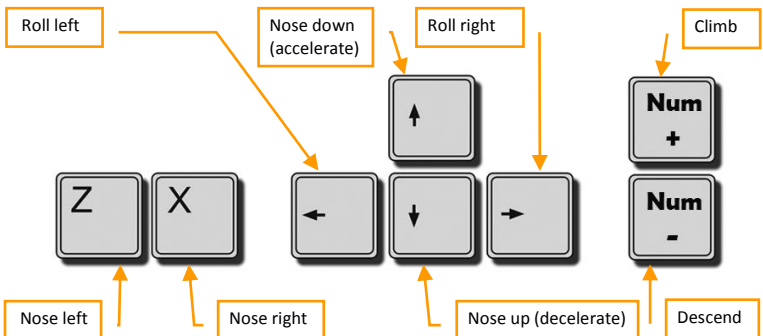
Primary helicopter flight controls include the cyclic control stick, collective control lever, and anti-torque pedals. The cyclic is the equivalent of a joystick and is used to raise or lower the nose and roll the helicopter left and right for turns. The collective is positioned by the pilot's side and is moved up and down to control the amount of lift being generated by the main rotor, essentially used to gain or lose altitude (climb/descend). The pedals are used to turn (yaw) the nose left or right along the horizon with minimal roll and can be used to rotate the helicopter when hovering.

When flying from the cockpit, you can toggle the Controls Indicator display by pressing **RCTRL + ENTER** to see a visual reference of the positions of your flight controls. This can be very helpful when learning how to fly.



*Flight controls seen in the cockpit and indicated on the Controls Indicator*

You can control the helicopter by either joystick or keyboard. However a joystick with a rudder axis or separate rudder pedals are recommended. We have provided a sample control configuration for both joystick and keyboard below:



Helicopters are generally unstable and require constant and coordinated control input. A change in one of the controls will always require corresponding adjustments in the other controls. If you find the flight model too difficult or if you lack sufficient flight control hardware to fly it effectively, you can enable the Control Helper mode in the OPTIONS > SPECIAL > Mi-8MTV2 menu. This will enable a kind of AI copilot that will attempt to stop you from getting into too much trouble.

Pressing Climb **Num+** or Descend **Num-** on the keyboard will increase and decrease the amount of lift being generated by the main rotor, resulting in a gain or loss of altitude.

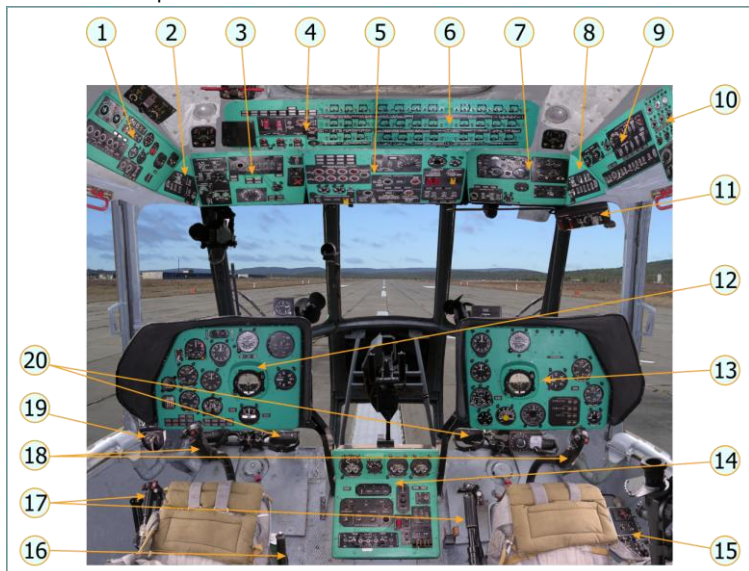
Pressing Nose Down **F** on the keyboard or pushing the joystick forward will lower the helicopter's nose and begin forward acceleration. Pressing Nose Up **J** on the keyboard or pulling the joystick back will raise the nose and slow the helicopter down or make it fly backwards from a hover.

Pressing Roll Right **R** or Roll Left **L** on the keyboard or pushing the joystick to the sides will cause the helicopter to roll and begin a turn in the direction of roll. The greater the roll angle, the faster the rate of turn. To stop the turn and return to level flight, roll the helicopter in the opposite direction of the turn until the horizon is level again.

Pressing Nose Left **Z** or Nose Right **X** on the keyboard will cause the helicopter to turn its nose to the left or right (yaw) with minimal roll, similar to turning the wheel in a car. The amount of yaw available is limited and depends largely on airspeed. When flying fast, the oncoming airflow makes it difficult for the helicopter to yaw against it. Yaw control is primarily used to control the helicopter's direction in a hover and maintain straight and level flight when flying at higher speeds.

# COCKPIT

The Mi-8 includes three crewmember stations in the cockpit – Pilot-Commander in the left seat, Pilot-Navigator in the right seat, and Flight Engineer in the center slightly behind the two pilots. You can select your position of choice by pressing **1**, **2**, or **3** on the keyboard. For the most part, you will only need to play from the left seat, which includes most of the weapons controls and the aiming sight used to aim weapons.



- |                                |                                       |
|--------------------------------|---------------------------------------|
| 1. Left Side Panel             | 11. Navigator's Weapons Control Panel |
| 2. Left Triangular Panel       | 12. Left Instrument Panel             |
| 3. Left Overhead Panel         | 13. Right Instrument Panel            |
| 4. Left Circuit Breaker Panel  | 14. Center Console                    |
| 5. Center Overhead Panel       | 15. Right Auxiliary Panel             |
| 6. Right Circuit Breaker Panel | 16. Rotor break handle                |
| 7. Right Overhead Panel        | 17. Collective control                |
| 8. Right Triangular Panel      | 18. Cyclic control                    |
| 9. Right Side Panel            | 19. Pitot tube selector               |
| 10. Electrical Control Panel   | 20. Anti-torque pedals                |

## Left Instrument Panel (Pilot-Commander)

The left instrument panel includes the primary flight indicators, highlighted below:

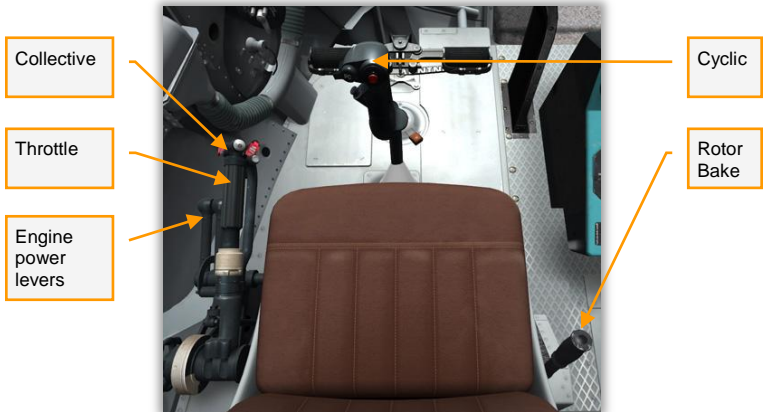


1. Radar altimeter (altitude above surface in meters)
2. Pressure altimeter (altitude above sea level in meters)
3. Heading indicator
4. Airspeed indicator (km/h)
5. Attitude indicator (artificial horizon)
6. Vertical velocity indicator (rate of climb/descent in meters/second)

# STARTING THE HELICOPTER

The automatic start-up procedure can be activated by pressing **LWIN + HOME**.  
Automatic shut down can be activated by pressing **LWIN + END**.

- Ensure the controls are properly set for start:
  - Rotor brake – DOWN (unlock)
  - Cyclic - CENTER
  - Collective- DOWN **Num-**
  - Throttle – FULL LEFT (Idle Power) **PgDn**
  - Engine Power Levers – MIDDLE (nominal power setting) **RCTRL + HOME** / **RCTRL + END**



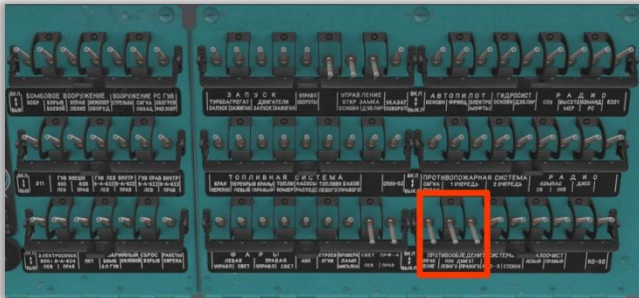
- Turn on onboard electrical power:
  - Right Side Panel - DC POWER:
    - АККУМУЛ I, II (Battery 1, 2) - ON



- Electrical Control Panel - AC POWER:
  - ~115, ~36 (115V, 36V Inverters) – **down** to АВТОМАТ (AUTO)



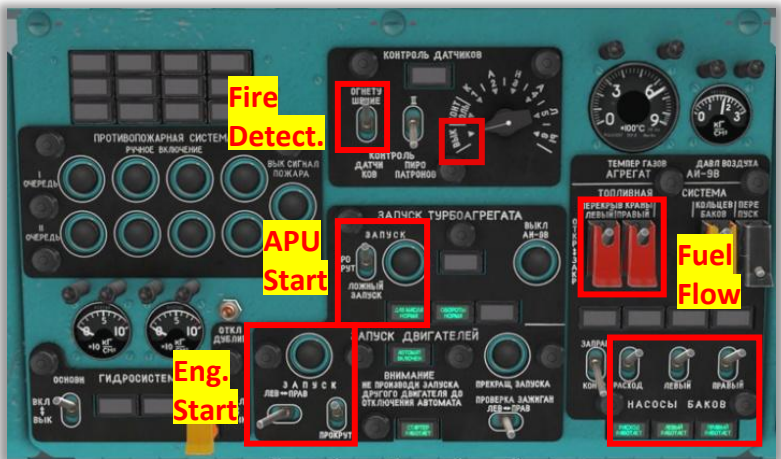
- Left and Right Circuit Breaker Panels:
  - All circuit breakers - ON **CTRL + RSHIFT + 1... 9**
  - ПРОТИВООБЛЕДИНЕНИЕ (Anti-ice Control, Left Engine, Right Engine) circuit breakers – OFF (unless required)



### 3. Auxiliary Power Unit (APU) and engines start:

- Center Overhead Panel:
  - Set fire suppression:
    - ОГНЕТУШЕНИЕ (Fire detector test/ON) – UP
    - Rotary CHECK FIRE CIRCUITS switch – ВЫК (OFF)
  - Open fuel flow
    - РАСХОД, ЛЕВЫЙ, ПРАВЫЙ (Service, Left, Right tank pumps) – UP

- ПЕРЕКРЫВ КРАНЫ (Left, Right shutoff valves) – UP
- AI-9B APU start:
  - ЗАПУСК switch (APU start mode) – UP
  - **LALT + E**
  - ЗАПУСК push-button (APU start) – SHORT PRESS
  - APU spool up should be under 20 seconds and running temp. below 720°C. Allow 1 minute warm-up time before engine start.



- Left engine start:
  - ЛЕВ ↔ ПРАВ (Select engine) – LEFT **E**
  - ПРОКРУТ (Engine start mode) – UP to ЗАПУСК (Start) position
  - ЗАПУСК push-button (Engine start ON) – LONG PRESS (2-3 sec) **HOME**
  - Left Engine Stop (roof) – OPEN (forward) **RCTRL + PgUp**





- Right engine start:
  - ЛЕВ ↔ ПРАВ (Select engine) – RIGHT **[E]**
  - ЗАПУСК push-button (Engine start ON) – LONG PRESS (2-3 sec) **[HOME]**
  - Right Engine Stop – OPEN (forward) **[CTRL + PgDn]**
  - With both engine at Idle Power, main rotor RPM should be 55-70%.



- Increase power to Full:
  - Throttle – full RIGHT to increase engine power and set automatic main rotor RPM regulation by the governor system **[PgUp]**



- Check main rotor RPM to stabilize at 95%
- Turn OFF APU:
  - ВЫКЛ АИ-9В (APU Stop) – SHORT PRESS **END**
- Right Side Panel - turn on engine dust protection (if required):
  - ПЗУ ДВИГАТЬ ЛЕВ, ПРАВ (Dust Protection Left, Right) – UP

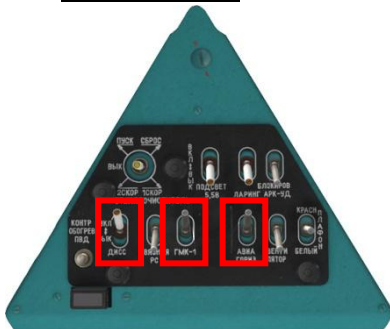


- Electrical Control Panel - turn on generators:
  - ГЕНЕРАТОРЫ I, II (Generator 1, 2) – UP
- Right Side Panel – DC POWER:
  - ВЫПРЯМИТЕЛИ I, II, III (Rectifier 1, 2, 3) – UP

## 4. Setup avionics:

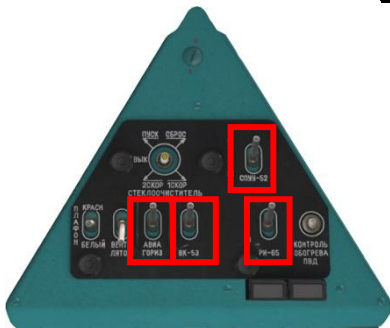
## o Right Triangular Panel:

- o ДИСС (Doppler Navigation Power) – UP **RALT + RSHIFT + T**
- o ГМК-1 (GMC Power) – UP **RALT + RSHIFT + U**
- o АВИАГОРИЗ (Right Attitude Indicator Power) – UP **RCTRL + RALT + P**



## • Left Triangular Panel:

- o АВИАГОРИЗ (Left Attitude Indicator Power) – UP **LALT + LSHIFT + G**
- o ВК-53 (VK-53 power) – UP **LALT + LSHIFT + F**
- o РИ-65 (RI-65) – UP
- o СПУУ-52 (SPUU-52 power) – UP **LALT + LSHIFT + T**



## • Set up the command radio

- o Overhead panel:

- СПУ-РАДИО (Radio/ICS) – DOWN to РАДИО **LALT + LCTRL + Z**



- Central Panel:

- Set desired VHF frequency



- Turn on the radar altimeter:
  - РАДИОВЫС (Radar altimeter power) – UP



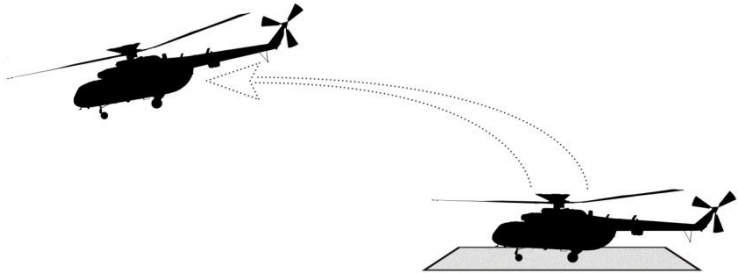
- Turn on stability augmentation for pitch and roll
  - PITCH/ROLL green push-light – SHORT PRESS **LWIN + A**



# FLYING THE HELICOPTER

## Takeoff

Because the Mi-8 is equipped with a wheeled undercarriage, it can takeoff either vertically or after a rolling start, called a running takeoff. A running takeoff can be used to gain some initial airspeed when the helicopter is too heavy to lift off vertically. Performing takeoffs can be challenging at first as they require coordinated, continuous, and smooth control of the cyclic, pedals, and collective.



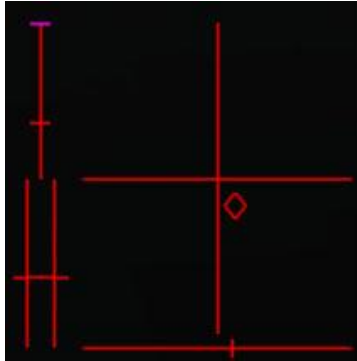
To begin the takeoff, release the parking brake by pressing **W**. The helicopter's nose may begin to move slightly as the wheels are freed. Use very slight pedal and cyclic corrections to keep the nose straight and steady.

Begin to raise the collective very slowly (**Num+**). The cyclic will generally need to be pulled slightly back and to the right (about 10-20% in each direction) to maintain a stable attitude. The right pedal will also need to be pressed in about 10-20% of the way to prevent the helicopter from yawing to the left as collective is increased. Continue to **slowly** raise the collective and use careful stick and pedal control to maintain the position of the nose and minimize any sliding along the ground. When done correctly, the helicopter will slowly lift off the ground and into a stable, low altitude hover with minimum changes in position and direction. A slight right bank angle will be necessary to maintain a hovering position and prevent a slide to the left.

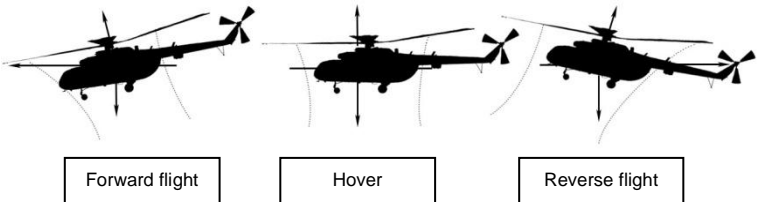
After lifting off to an altitude of a few feet off the ground, lower the nose slightly by releasing some back pressure on the stick to begin accelerating forward.

Slightly increase collective as you move the stick forward to prevent a loss of altitude as the nose lowers.

Here is an example of the approximate positions of the flight controls during a vertical takeoff, hover, and vertical landing:



To accelerate forward, keep the helicopter's nose slightly down. To slow down, raise the nose up (pull the stick back) to put it slightly above the horizon. If you keep the helicopter's nose raised after it stops moving forward, it will begin to fly backwards. Use the collective (**Num+** / **Num-**) to increase/decrease the amount of lifting power being generated by the rotor and control altitude as the nose is raised or lowered. Used pedals (**Z** / **X**) to maintain your heading.





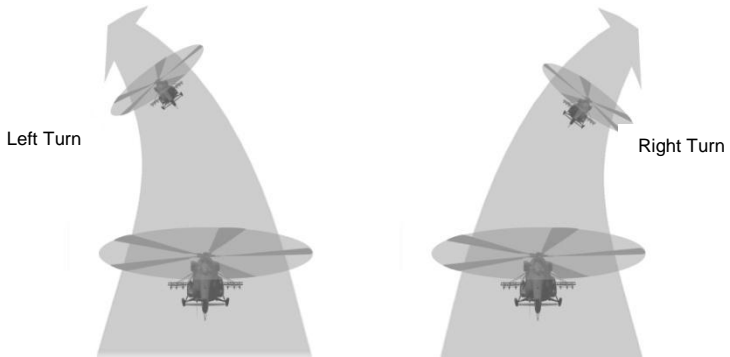
As your airspeed builds, the nose will tend to rise up. Anticipate this and compensate for it by pushing the cyclic forward. As you transition from a hover into forward flight above 50 km/h, the cyclic will move from a back-and-right position to an approximate forward-and-center position. Similarly, as airspeed builds the amount of pedal input required will be reduced. At fast airspeeds,



such as above 150 km/h, the helicopter will tend to roll right, so increasing cyclic to the left will also be necessary to maintain level flight.

## Turning

If the helicopter is in forward flight, turn by rolling in the direction of the turn

( /  or cyclic to the left/right). Turn rate can be increased with some additional pedal input into the turn and a slight pull of the cyclic.



In a hover or at very low airspeeds, the helicopter can be turned using the pedals ( / ) to rotate the nose along the horizon.

## Hover

One of the essential skills of helicopter control is hovering. Like takeoff, hovering requires careful, smooth, and coordinated control input.

To enter a hover from forward flight, you will need to first reduce your airspeed without losing altitude. To do so, simultaneously raise the nose up about 20° by pulling the cyclic back and **decrease** collective to prevent altitude gain. Keep a careful eye on the vertical velocity and airspeed indicators. As your speed drops below 50 km/h, be ready to **increase** collective and lower the nose to attain a near hovering position at a low airspeed. Timely increase of the collective is critical as your airspeed drops below 50 km/h in order to avoid entering a vortex ring state (VRS), where the helicopters gets “sucked” into its own downwash and begins to plummet toward the ground.



Keep in mind that increasing and decreasing collective will always require corresponding adjustments in cyclic and pedals in order to maintain stable flight. In general, *increasing* collective will tend to also pull the nose *left*, requiring additional *right* pedal input to compensate. Conversely, *decreasing* collective will tend to pull the nose to the *right*, requiring increased *left* pedal input to compensate.

## Landing

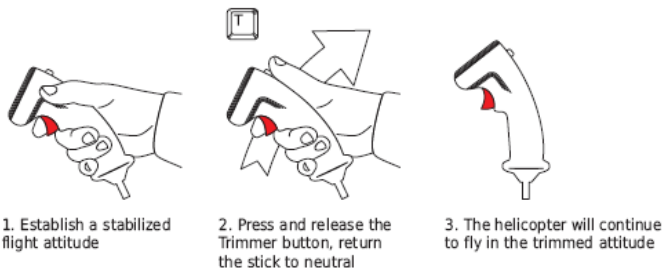
To perform a landing, begin a stable descent toward the landing point. Keep your airspeed around 120 km/h and rate of descent under control by using the collective and cyclic controls. Try to enter a hover a few feet over the landing point and then carefully reduce collective to lower the helicopter to the ground.

A running landing is also possible and is easier to perform. In a running landing, the helicopter lands with some forward speed and rolls forward on the wheels until stopped using back stick pressure or the wheel brakes (**W**).

## Trim

The helicopter is rarely flown with either the cyclic or pedals in the neutral position. In the real helicopter, the pilot is able to press a trim button on the cyclic to set the controls in their current position. However, because most PC controllers don't have a similar trim capability, a special trim function is available in the simulation.

To trim the controls in their current position, press and release the Trimmer button (**T**), then quickly return the stick and pedals to the neutral position. You can cancel trim at any time by pressing **CTRL + T**.
















## WEAPONS EMPLOYMENT

The Mi-8MTV2 is equipped with 6 external hardpoints that can be loaded with the following weapon systems:

- Б-8В20А (B-8V20A) rocket pod with 20 S-8 80 mm unguided rockets
- УПК-23-250 (UPK-23-250) gun pod armed with the twin-barrel GSh-23 23 mm cannon
- ГУВ-8700 (GUV-8700) gun pod, which includes two variants:
  - 9-A-800: single 30 mm automatic grenade launcher
  - 9-A-624/622: one 12.7 mm and two 7.62 mm four-barrel gatling machines guns in a single pod

The hardpoints are numbered 1 – 6 left to right (if facing forward from the cockpit). Not every hardpoint can support every weapon type. The image below demonstrates the weapon systems supported by each hardpoint:



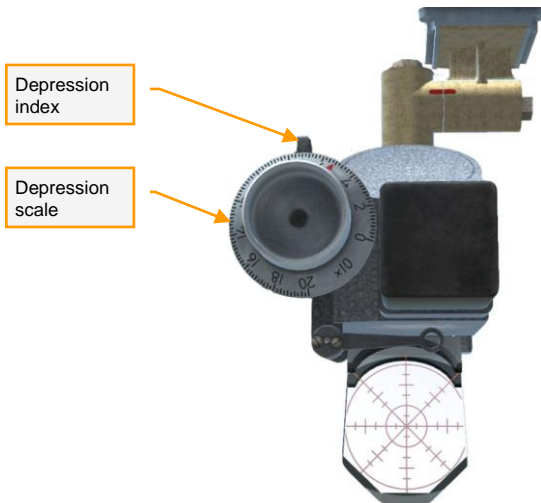
	6	5	4	3	2	1	
“РС” (RS)		 20	 20	 20	 20		80 mm rockets
“УПК” (UPK)							23 mm cannon
“624” / “622”							12.7 / 7.62 mm machine guns
“800”							30 mm grenades

### ПКВ (PKV) aiming sight

The Pilot-Commander's position (left seat) includes the primary aiming device used when firing weapons – the PKV reflector sight. The sight includes a

Depression knob used to lower or raise the vertical angle of the sight to provide a correct aimpoint for the given attack run, depending on the planned dive angle, airspeed, range to the target, and the weapon type. For complete instructions on using the PKV sight, please reference the Flight Manual. For general use, it is recommended to set to sight to a depression angle of 70-80 mils by using the Depression knob to align the desired position on the scale with the scale index. This setting will provide an approximate aimpoint for all weapons within a firing range of 1 - 2 km.

The red triangle marker on the Depression scale indicates the depression angle corresponding to the helicopter's longitudinal axis, or where the aimpoint becomes directly parallel with the helicopter's fuselage.



Because the 70-80 mil setting is only a rough estimate of the true aimpoint, you may wish to initially fire a short burst to see the actual impact location and adjust your aim accordingly.

All weapons are fired using the **SPACE** command.

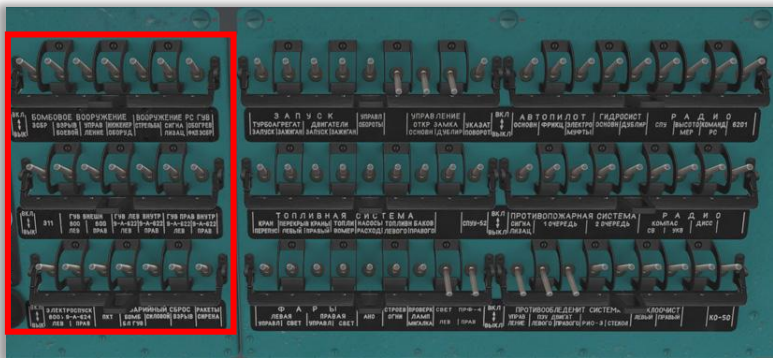
## Weapon Selection

When preparing the helicopter for weapon employment, you can turn on Active Pause mode by pressing **RWIN + RSHIFT + PAUSE** to freeze in mid-air and allow yourself time to configure the systems.

**Warning!** Enemy AI does not freeze during Active Pause!

When preparing to fire any weapon, perform these preliminary steps:

- Turn on all of the weapon systems circuit breakers (**RCTRL + RSHIFT + 1...3**)



- Turn on the Master Arm switch (roof) **LALT + S**

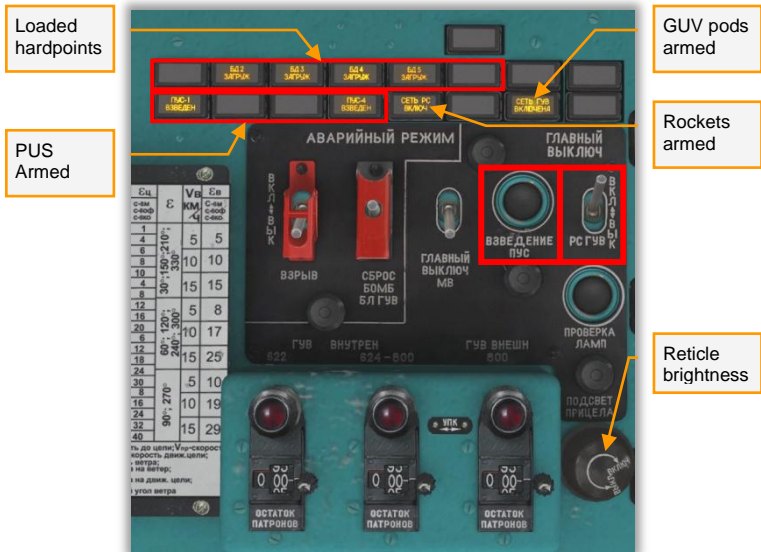


- Set the ПКВ (PKV) aiming sight depression angle to 70-80 mil or other desired value for the planned attack

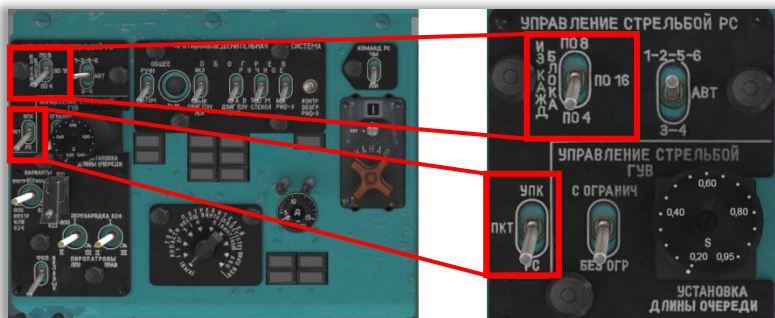
## Firing unguided rockets

After performing the preliminary weapon employment steps, do the following to setup unguided rockets for fire:




- Left Circuit Breaker Panel:
  - РС ГУВ ВКЛ – ВЫКЛ (RS/GUV Arm) switch – UP **P**
  - ВЗВЕДЕНИЕ ПУС (PUS Arming) push-button – LONG PRESS (1-3 sec) **LCTRL + R**



- Left Overhead Panel:
  - Set the desired number of rockets to be fired from each rocket pod with each press of the trigger between 4, 8, and 16 using the ПО 4 – ПО 8 – ПО 16 (8/16/4) switch **RSHIFT + ] / RSHIFT + ]**
  - УПК – ПКТ – РС (УПК / ПКТ / RS) switch – DOWN to РС (RS) **RCTRL + ] / RCTRL + ]**



## Firing the УПК-23-250 gun pods

The procedure for setting up the УПК-23-250 twin-barrel 23 mm cannon pods for fire is the same as for rockets, except the УПК – ПКТ – РС (UPK / PKT / RS) switch must be placed UP in the УПК (UPK) position. **RCTRL + ** / **RCTRL + ** / **RCTRL + **

## Firing the ГУВ-8700 gun pods

### 9-A-624/622

The 9-A-624/622 version of the GUV-8700 gun pod features a single YakB 12.7 mm 4-barrel gatling machine gun and two GShG 7.62 mm 4-barrel gatling machine guns. Only one of the two systems can be fired at a time.

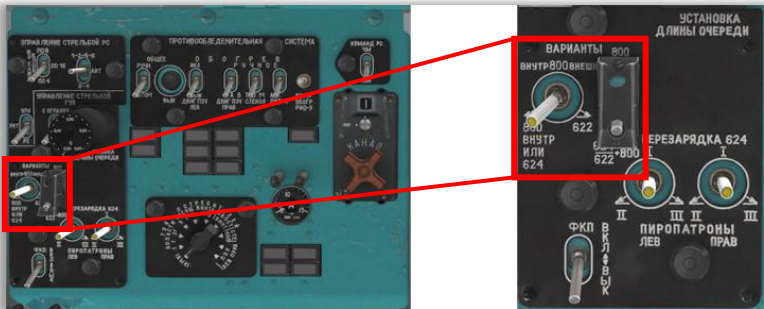


After performing the preliminary weapon employment steps, do the following to setup the "624" 12.7 mm guns for fire:

- Left Circuit Breaker Panel:
  - PC ГУВ ВКЛ – ВЫКЛ (RS/GUV Arm) switch – UP (same as rockets) **P**
- Navigator's Weapons Control Panel:
  - ВАРИАНТЫ ПОДВЕСКИ (Pod variants) – ГУВ (GUV)



- Left Overhead Panel:
  - ВАРИАНТЫ (IN 800 OUT – 800 IN OR 624 – 622) – 800 IN OR 624 **CTRL + ALT + I** / **CTRL + ALT + J**
  - ВАРИАНТЫ (800 – 624/622+800) – 624/622+800 **O**



To fire the two “622” 7.62 mm machine guns of the pod, the procedure is the same, except the IN 800 OUT – 800 IN OR 624 – 622 switch must be placed in the 622 position. **[RCTRL + RALT + ]** / **[RCTRL + RALT + ]**

### 9-A-800

The 9-A-800 version of the GUV-8700 gun pod features a single AP-30 automatic grenade launcher. When using this weapon, keep in mind that it has a very high dispersion area and is only effective as an area weapon against groups of soft targets such as infantry and unarmored vehicles.

To fire the 9-A-800 gun pod, repeat the steps for firing the 9-A-624/622 gun pod, except set the IN 800 OUT – 800 IN OR 624 – 622 switch UP to the IN 800 OUT position (**[RCTRL + RALT + ]** / **[RCTRL + RALT + ]**).

Note, it is possible to carry up to four 9-A-800 gun pods. If is the case, you will also need to place the 800 – 624/622+800 switch UP to the 800 position (**[0]**). You can then either fire from all four pods simultaneously if the IN 800 OUT – 800 IN OR 624 – 622 switch is in the 800 position, or only from the inner pods if the switch is in the 800 IN OR 624 position.



## END USER LICENSE AGREEMENT

**IMPORTANT - YOU SHOULD CAREFULLY READ THE FOLLOWING BEFORE INSTALLING THE SOFTWARE.**

USE OF THE SOFTWARE IS SUBJECT TO THE LICENCE TERMS SET FORTH BELOW. THIS LICENCE AGREEMENT (“LICENCE”) IS A LEGAL DOCUMENT BETWEEN YOU (“LICENSEE” OR “YOU”) AND BELSIMTEK 223054, Minsk region, Ostroshitsky-Gorodok s/s, vill.Ostroshitsky town, Pension "Theatralny" room 17, (“BELSIMTEK” OR “WE”) FOR THE “DCS: UH-1H” SOFTWARE PRODUCT (“PROGRAM”), WHICH INCLUDES ALL SOFTWARE INCLUDED WITH THIS LICENCE, THE ASSOCIATED MEDIA, THE DATA SUPPLIED WITH IT, ANY PRINTED MATERIALS, AND ANY ONLINE OR ELECTRONIC DOCUMENTATION (“DOCUMENTATION”) AND ANY AND ALL COPIES AND DERIVATIVE WORKS OF SUCH SOFTWARE AND MATERIALS AND ARE THE COPYRIGHTED WORK.

BY INSTALLING THE PROGRAM AND CLICKING ON THE “ACCEPT” BUTTON BELOW, YOU ACCEPT THE TERMS OF THIS LICENCE WITH BELSIMTEK WHICH WILL BIND YOU. IF YOU DO NOT AGREE TO THE TERMS OF THIS LICENCE, WE ARE UNWILLING TO LICENCE THE PROGRAM TO YOU AND YOU MUST NOT INSTALL THE PROGRAM. IN THIS CASE, IF YOU OBTAINED THE PROGRAM FROM A RETAILER YOU MUST RETURN THE MEDIUM ON WHICH THE PROGRAM IS STORED AND ALL ACCOMPANYING DOCUMENTATION TO THE RETAILER FROM WHOM YOU PURCHASED THEM, TOGETHER WITH PROOF OF PAYMENT.

### 1. LIMITED USE LICENCE

In consideration of you agreeing to abide by the terms of this Licence, BELSIMTEK hereby grants to you a non-exclusive, non-transferable, limited right and licence to install and use one copy of the Program and the Documentation solely and exclusively for your personal use on the terms of this Licence. All rights not specifically granted under this Licence are reserved by BELSIMTEK and, as applicable, BELSIMTEK's licensors. You may not network the Program or otherwise install it or use it on more than one computer at a time, except if expressly authorized otherwise in the Documentation. . GOVERNMENT AND COMMERCIAL ENTITIES MAY NOT USE THIS SOFTWARE UNDER THIS EULA. Government and commercial entities wishing to use this software in conjunction with training or demonstrator applications must obtain a license directly from BELSIMTEK under a separate pricing structure and terms of use.

### 2. OWNERSHIP

2.1 The Program is licensed, not sold, for your use. This Licence confers no title or ownership in the Program and should not be construed as a sale of any rights in the Program. This Licence shall also apply to any patches or updates you may obtain from BELSIMTEK for the Program.

## END USER LICENSE AGREEMENT

2.2 All title, ownership rights and intellectual property rights in and to the Program and any and all copies thereof (including but not limited to any titles, computer code, themes, objects, characters, character names, stories, narrative, locations, artwork, animations, sounds, musical compositions, audiovisual effects, methods of operation, any related documentation, and add-ons incorporated into the Program now or in the future) are owned by BELSIMTEK, affiliates of BELSIMTEK or BELSIMTEK's licensors.

2.3 You acknowledge that you have no right to have access to the Program in source code form or in unlocked coding or with comments.

2.4 All rights are reserved. This Program contains certain licensed materials and BELSIMTEK's licensors may protect their rights in the event of any violation of this Agreement.

### 3. LICENCE CONDITIONS

3.1 Except as expressly set out in this Licence or in clauses 4.1 and 4.2 below, or as permitted by any local law, you undertake to use the Program for your own personal use, and you shall not:

(a) use the Program, or permit use of the Program, on more than one computer, computer terminal, or workstation at the same time;

(b) make copies of the Program or any part thereof, or make copies of the materials accompanying this Program except where such copying is incidental to normal use of the Program or where it is necessary for the purpose of back-up or security;

(c) use the Program, or permit use of the Program, in a network, multi-user arrangement or remote access arrangement, including any online use, except as otherwise explicitly provided by the Program;

(d) sell, rent, lease, sub-license, distribute, loan, translate, merge, adapt, vary, modify or otherwise transfer the Program, or any copies of the Program, without the express prior written consent of BELSIMTEK;

(e) not to make alterations to, or modifications of, the whole or any part of the Program nor permit the Program or any part of it to be combined with, or become incorporated in, any other programs;

(f) not to disassemble, decompile, reverse engineer or create derivative works based on the whole, or any part, of the Program nor attempt to do any such things except to the extent that (by virtue of section 296A of the Copyright, Designs and Patents Act 1988) such actions cannot be prohibited because they are essential for the purpose of achieving inter-operability of the Program with another software program, and provided that the information obtained by you during such activities:

## END USER LICENSE AGREEMENT

(i) is used only for the purpose of achieving inter-operability of the Program with another software program; and

(ii) is not unnecessarily disclosed or communicated to any third party without the BELSIMTEK's prior written consent; and

(iii) is not used to create any software which is substantially similar to the Program.

(g) remove any proprietary notices or labels from the Program or otherwise modify the Program without the prior written consent of BELSIMTEK; and

(h) exploit this Program or any of its parts commercially, including but not limited to use at a cyber cafe, computer gaming centre or any other location-based site. BELSIMTEK may offer a separate Site Licence Agreement to permit you to make the Program available for commercial use; please refer to the contact information below.

3.2 You acknowledge that the Program has not been developed to meet your individual requirements and that it is therefore your responsibility to ensure that the facilities and functions of the Program as described in the Documentation meet your requirements.

3.3 You acknowledge that the Program may not be free of errors or bugs and you agree that the existence of any minor errors shall not constitute a breach of this Licence.

### 4. PROGRAM UTILITIES

4.1 This Program may contain certain design, programming and processing utilities, tools, assets and other resources ("Program Utilities") for use with this Program that allow you to create customized new missions, campaigns, skins, terrain and other related materials for personal use in connection with the Program ("New Game Materials"). The use of any Program Utilities is subject to the following additional licence restrictions:

(a) you agree that, as a condition to your using the Program Utilities, you will not use or allow third parties to use the Program Utilities and the New Game Materials created by you for any commercial purposes, including but not limited to selling, renting, leasing, licensing, distributing, or otherwise transferring the ownership of such New Game Materials, whether on a stand alone basis or packaged in combination with the New Game Materials created by others, through any and all distribution channels, including, without limitation, retail sales and on-line electronic distribution. You agree not to solicit, initiate or encourage any proposal or offer from any person or entity to create any New Game Materials for commercial distribution. You agree to promptly inform BELSIMTEK in writing of any instances of your receipt of any such proposal or offer;

(b) if you decide to make available the use of the New Game Materials created by you to other gamers, you agree to do so solely without charge, unless with prior approval from BELSIMTEK;

## END USER LICENSE AGREEMENT

(c) New Game Materials may be created only if such New Game Materials can be used exclusively in combination with the retail version of the Program. New Game Materials may not be designed to be used as a stand-alone product;

(d) New Game Materials must not contain any illegal, obscene or defamatory materials, materials that infringe rights of privacy and publicity of third parties or (without appropriate irrevocable licences granted specifically for that purpose) any trademarks, copyright-protected works or other properties of third parties;

(e) all New Game Materials must contain prominent identification at least in any on-line description and with reasonable duration on the opening screen: (a) the name and E-mail address of the New Game Materials' creator(s) and (b) the words "THIS MATERIAL IS NOT MADE OR SUPPORTED BY BELSIMTEK.";

(f) all New Game Materials created by you shall be exclusively owned by BELSIMTEK and/or its licensors as a derivative work (as such term is described under U.S. copyright law) of the Program and BELSIMTEK and its licensors may use any New Game Materials made publicly available by you for any purpose whatsoever, including but not limited to, for purpose of advertising and promoting the Program.

4.2 With permission from BELSIMTEK, in certain circumstances, you may be authorised to publish and distribute New Game Materials for gain. In this event you should first contact BELSIMTEK to seek permission, and obtain the details of the terms and conditions at BELSIMTEK Imperial War Museum, Duxford Airfield, Cambridge, CB2 4QR, England, UK. Attn. Business and Legal Affairs

### 5. WARRANTY

The entire risk arising out of use or performance of the Program remains with you. However it is warranted that the media containing the Program shall be free from defects in material and workmanship under normal use and services and the Program will perform substantially in accordance with the accompanying written materials, for a period of 90 (ninety) days from the date of your purchase of the Program.

### 6. LIMITATION OF LIABILITY

6.1 SUBJECT TO CLAUSE 6.2, NEITHER BELSIMTEK, ITS PARENT, SUBSIDIARIES, AFFILIATES OR LICENSORS SHALL BE LIABLE IN ANY WAY FOR LOSS OR DAMAGE OF ANY KIND RESULTING FROM THE USE OF THE PROGRAM, INCLUDING BUT NOT LIMITED TO LOSS OF GOODWILL, LOSS OF INCOME, LOSS OF BUSINESS PROFITS OR CONTRACTS, BUSINESS INTERRUPTION, LOSS OF THE USE OF MONEY OR ANTICIPATED SAVINGS, LOSS OF INFORMATION, LOSS OF OPPORTUNITY, LOSS OF, DAMAGE TO OR CORRUPTION OF DATA, WORK STOPPAGE, COMPUTER FAILURE OR MALFUNCTION, OR OTHER COMMERCIAL DAMAGE OR LOSSES OR ANY INDIRECT OR CONSEQUENTIAL LOSS OR DAMAGE OF ANY KIND HOWSOEVER ARISING WHETHER CAUSED BY TORT (INCLUDING

## END USER LICENSE AGREEMENT

NEGLIGENCE), BREACH OF CONTRACT OR OTHERWISE. EVEN IF BELSIMTEK HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, BELSIMTEK'S LIABILITY UNDER OR IN CONNECTION WITH THIS LICENCE, OR ANY COLLATERAL CONTRACT, WHETHER IN CONTRACT, TORT (INCLUDING NEGLIGENCE) OR OTHERWISE, SHALL NOT EXCEED THE ACTUAL PRICE PAID FOR THE LICENCE TO USE THE PROGRAM.

6.2 Nothing in this Licence shall exclude or in any way limit the Licensor's liability for fraud, or for death and personal injury caused by its negligence, or any other liability to the extent the same may not be excluded or limited as a matter of law.

6.3 Subject to clauses 6.1 and 6.2, BELSIMTEK's liability for infringement of third party intellectual property rights shall be limited to breaches of rights subsisting in the United Kingdom.

6.4 THIS LICENCE SETS OUT THE FULL EXTENT OF BELSIMTEK'S OBLIGATIONS AND LIABILITIES IN RESPECT OF THE SUPPLY OF THE PROGRAM AND DOCUMENTATION. IN PARTICULAR, THERE ARE NO CONDITIONS, WARRANTIES, REPRESENTATIONS OR OTHER TERMS, EXPRESS OR IMPLIED, THAT ARE BINDING ON BELSIMTEK EXCEPT AS SPECIFICALLY STATED IN THIS LICENCE. ANY CONDITION, WARRANTY, REPRESENTATION OR OTHER TERM CONCERNING THE SUPPLY OF THE PROGRAM AND DOCUMENTATION WHICH MIGHT OTHERWISE BE IMPLIED INTO OR INCORPORATED IN THIS LICENCE, OR ANY COLLATERAL CONTRACT, WHETHER BY STATUTE, COMMON LAW OR OTHERWISE, IS HEREBY EXCLUDED TO THE FULLEST EXTENT PERMITTED BY LAW.

## 7. INDEMNITY

You agree to indemnify, defend and hold BELSIMTEK, its partners, affiliates, licensors, contractors, officers, directors, employees and agents harmless from all damages, losses and expenses arising directly or indirectly from your acts and omissions to act in using the Program pursuant to the terms of this Agreement.

## 8. TERMINATION

8.1 You may terminate the Licence at any time by destroying the Program and any New Material.

8.2 BELSIMTEK may, at its discretion, terminate this Licence in the event that you fail to comply with the terms and conditions contained herein. In such event, you must immediately destroy the Program and any New Material.

8.3 Upon termination of this Licence for whatever reason:

(a) all rights granted hereunder shall automatically cease;

## END USER LICENSE AGREEMENT

(b) you forthwith must cease all activity authorised by this Licence; and

(c) you must immediately delete or remove the Program from all computer equipment in your possession and immediately destroy or return to BELSIMTEK (at BELSIMTEK's option) all copies of the Program then in your possession, custody or control and, in the case of destruction, certify to BELSIMTEK that you have done so.

### 9. LICENCE TRANSFER

9.1 You may permanently transfer all of your rights under this Licence to the recipient, provided that the recipient agrees to the terms of this Licence and you remove the Program from your computer.

9.2 BELSIMTEK may transfer, assign, charge, sub-contract or otherwise dispose of this Licence, or any of our rights or obligations arising under it, at any time during the term of this Licence.

### 10. MISCELLANEOUS

10.1 The Licensor will not be liable or responsible for any failure to perform, or delay in performance of, any of his obligations under this Licence that is caused by an event outside its reasonable control.

10.2 This Licence and any document expressly referred to in it represents the entire agreement between BELSIMTEK and you to the licensing of the Program and Documentation and supersedes any prior agreement, understanding or arrangement between us, whether oral or in writing.

10.3 This Licence shall be deemed to have been made and executed in England, and any dispute arising out of or in connection with it or its subject matter shall be governed by and construed in accordance with English law. The parties hereby agree that the English courts shall have exclusive jurisdiction to settle any dispute or claim that arises out of or in connection with this Licence or its subject matter.

Copyright 2013 Belsimtek Ltd. All rights reserved.

Copyright (c) 2002, Xiph.org Foundation

Copyright (c) 2002, Industrial Light & Magic, a division of Lucas Digital Ltd. LLC

Copyright © 2003-2008 Tecgraf, PUC-Rio.

Copyright c 2003 Kepler Project.

Copyright c 2003-2006 The Kepler Project.

(c) 2007 The FreeType Project

Copyright (C) 2001-3 Henry Maddocks

If you have any questions concerning this licence, you may contact BELSIMTEK at 223054, Minsk region, Ostroshitsky-Gorodok s/s, vill.Ostroshitsky town, Pension "Theatralny" room 17. Business and Legal Affairs



Serial number

