Mil Mi-28 Manual

By Decisive Killing Machines-Mod   http://www.dkm-mod.mkdi.net

Content:

Disclaimer:

This addon for Operation Flashpoint is shareware and can be distributed under the following conditions:
- Non-commercial distribution
- The original files have to remain in the add-on
- No changing the original files in any way.

If you want to reskin or remodel this addon send a request to
dkm@dds.nl

This is NOT an official Add-on. Use it at your own risk. DKM-MOD will not be held responsible for any damage these add-ons might incur.
Nor will we be responsible for any problems you might encounter in installing or using this add-on.
Any problems or questions with these add-ons should be directed to our bug report forum.

We do our best to make the add-ons as faultless as possible, but cannot guarantee that there will not be any.

Be aware that if your make a mission that uses a custom add-on, the add-on will need to be distributed with your mission.

Introduction:

This manual was written to give you an overview what the DKM-Mod's Mi-28 addon is capable of and to provide you with information how to use it correctly.

The add-on comes in 2 different versions with a total of 5 load-outs (for the class names please look into chapter 4):

- Mi-28 A:
    - 30mm, 10 x S-13, 16 x AT-9
    - 30mm, 80 x S-8

- Mi-28 N:
    - 30mm, 40 x S-8, 16 x AT-9
    - 30mm, 23mm gun-pods, 16 x AT-9
    - 30mm, 23mm gun-pods, 4 x SA-18 Igla

We tried to get the add-on as multiplayer friendly as possible (in fact it took around 50% of all scripting time to get it working in mp).

Features are:

- Engine start-up/shutdown sequence
- Damage system/Damage warning system
- 2 barrel firing (on 23mm)
- Working Heads Up Display
- Missile warning with direction indicator
- Moving Dampers and FLIR (Forward Looking Infra Red)
- Crash models
- Crash resistant cell
- Switch able MFD (in A version)
- Dimmable HUD/MFD's
- Automatic ECM/CM system
- New downwash effect (based on Vektorboson's)
- Weapon smoke when firing
- Emergency equipment for pilots

Installation:

When you have downloaded the .rar archive:

- Unpack the .rar with a program like WinRar
  Copy DKMM_Mi28.pbo, DKMM_MI28_controls.pbo,
- and DKMM_Mi28.txt into your Res \ Add-ons folder (or whatever folder you use for your add-ons)
- The units are under East/DKM-Mod/Air

When you have downloaded the .msi archive:

- Double-click the .msi file and follow the instructions
- The units are under East/DKM-Mod/Air

We decided to use two *.pbo files instead of one.
The dkmm_mi28_controls.pbo contains all scripts and config for this chopper, we might release updates in the future, requiring you to simply re-download the controls pbo.
Since this pbo is much smaller than the models pbo it will dramatically cut down your download time and reduce traffic on our best web host ever: www.mkdi.net

Chapter 1: Cockpit

Instrument panel:

There layout of the pilot's cockpit differs from A to N version, even if both are capable of displaying the same things, the A version has only one MFD, so you can't display all information at once.
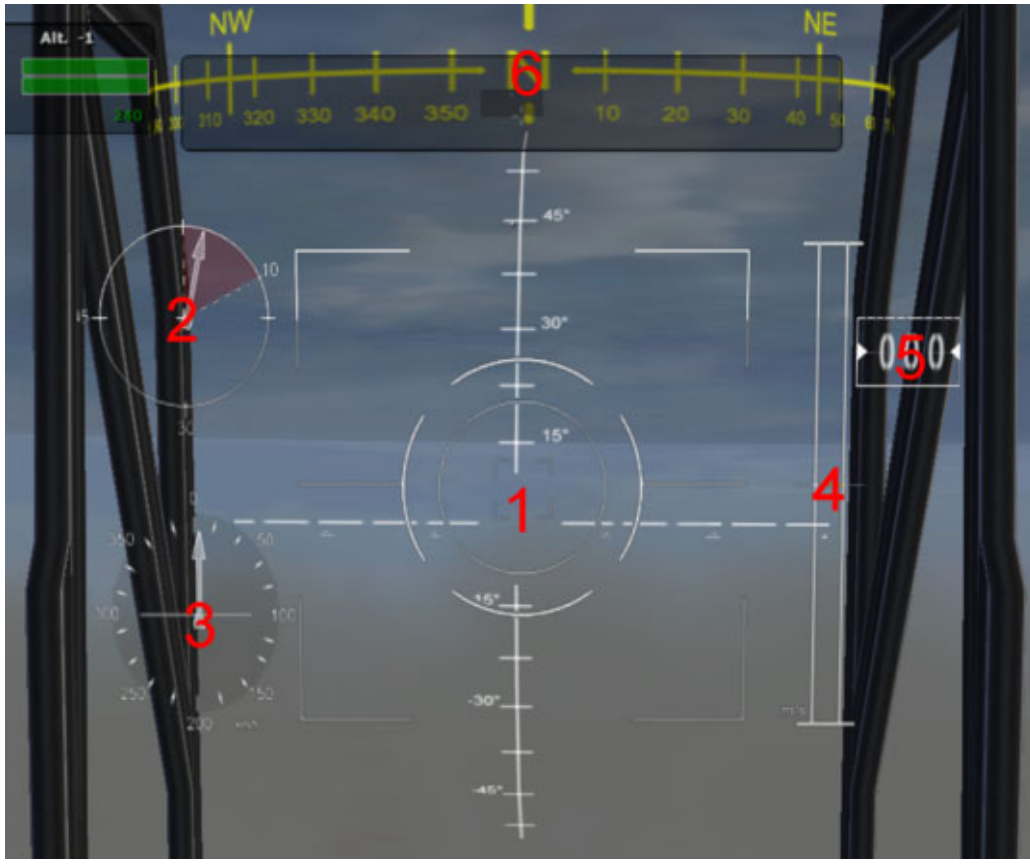
Cockpit of A versions:

1. Heads Up Display (HUD)
2. Multi Functional Display (MFD)
3. Incoming Missile Warner
4. Engines RPM
5. Hydraulic Pressure
6. Main Warning Panel

Cockpit of N versions:

1. HUD
2. Map display
3. Compass
4. Incoming Missile Warner
5. Incoming Missile Warner
6. Ammo Display
7. Engines RPM
8. Main Warning Panel

Heads Up Display

1. Artificial Horizon
2. Radar Height
3. Speed
4. Climb rate
5. Height
6. Compass

(Not shown at the moments are the indicators for FFAR's that indicate of which side the next missile will appear and the incoming missile warning)

Avionics in the Mi28 are as usual in aircraft; the ones included in the add-on are mostly shown in the Heads Up Display, to make piloting the helicopter simpler and easier. The altimeter and speed are both shown in the normal game's display as well, but can be found to either side of the main HUD display with the compass running at the top to give an easy direction indicator without having to press the G key to show the default compass in game. This stops the pilot having to look from the controls of the HUD, to the compass, which can result in the collision of the aircraft into the scenery. The HUD is designed to present as much information as possible to the pilot. Press the collective down button when engines are on and while on the ground to start rolling the chopper forward.

Gunner's cockpit

The gunner's cockpit is forward and below of the pilot's position. This is to give the gunner a better view of the battlefield and allowing him to see targets more clearly. The gunner handles all the weapon systems of the MI-28, unless the player has selected manual fire mode as pilot.
 The gunner has some special commands in the cockpit of the MI-28, to give players some level of control. The gunner can make the pilot decrease and increase height. This allows the helicopter to use ground cover better, and enables the aircraft to 'bob-up' from behind cover, fire shots, and then drop back into cover.
A player as gunner can also land the helicopter so that they can get out, or if the chopper is in danger of being shot down, they can make an emergency exit.
 An MI-28 co-pilot can use the sights mounted to the chin turret in order to hit targets with it.

Gunner's cockpit with ammo display on MFD:

The co-pilot sights are shown above.

Counter-Measures:

There are several types of CM equipment types available to be used by the player in the MI28, most are handled automatically by the on board computer. There are two main types of counter-measure handling, automatic and semi-automatic. Automatic is the setting when the computer controls all counter-measures, when they are triggered by a missile launch or other engagement by enemy systems, the computer will select the counter-measure most suitable to protect the aircraft. This is easiest and more effective, with the player free to fly the helicopter and engage targets. Semi-automatic is the setting where the player controls radar jamming, while other CM's are still computer controlled. The player can select whether to put the jammer on or not, allowing clearer target identification by it's own radar, but sacrificing the electronic counter-measure capability afforded by the jammer. The aircraft is not defenceless during this setting, however, as the radar which picks up missile locks is still active, and the flares that are triggered by this radar are still automatically fired.

There are several places where ECM and CM fixings are located on the MI28, the most notable of the ECM being on the left and right tips on the stub wings in long fairings.

The Engine and exhaust shrouds are both Infrared shielded, reducing the amount of IR energy emitted. This is effective protection against Heat seeking AAM's such as the AIM-9 Sidewinder, as it minimises the heat signature the missiles rely on to achieve a target lock.

Chapter 2: Damages system

Main warning system:

The Mi-28 is the first add-on for Operation Flashpoint that has its own damage system. Depending on the damage different system can fail on the Havoc. All damages are displayed on the main warning panel. Serious damages are red, not critical are yellow highlighted.

Damages:

1. Engine one failure: Engine one fails and the chopper has not full power for manoeuvres anymore.
2. Engine two failure: Same as "engine one failure"
3. Tail rotor failure: Tail rotor fails and the chopper starts spinning
4. Avionics failure: All MFD's and HUD will shut down (except the compass and artificial horizon on the HUD)
5. Weapons failure: All weapons except the 30mm cannon fail
6. Cannon malfunction: 30mm fails
7. Dispenser Malfunction: Chaff/Flare dispenser fails (you will now more vulnerable to AA missiles)
8. Jammer Malfunction: Radar/Ir Jammer fails (you are more vulnerable to AA fire)

Chapter 3: Weapons systems

Machine guns

The MI-28 carries a variety of cannons, machine guns and ammunition types for these weapons. The main armament is the 30mm cannon. This gun fires two types of ammunition in the add-on. These are: Armour Piercing (AP) and High Explosive (HE). Both rounds are useful against armour, but AP has better damaging effects against vehicles. It is for use against any vehicle target and can damage the Main Battle Tank of the west with relative ease. The HE rounds are not as good against heavily armoured targets, having no penatration power. These are best against troops as the blast from each shell can kill multiple troops. AP is at a disadvantage in this case, as you would need to hit a soldier directly with it to kill them as it has no explosion.
 The second type of machine gun is the 23mm gun pods. In each gun pod there are two barrels, giving the MI-28 a high rate of fire and huge fire-power. The russians make the best automatic cannons in the world, and with their 23mm cartridge is the equivilant of a 30mm gun in the west. This weapon is used against armoured, troops and also air targets, as the high rate of fire makes it effective at air-to-air combat. These pods are good against tanks when the crew need to save their ATGMs. A good run with the 23mm pods will disable any tank, and any enemy convoys where Ataka missiles are an over-kill are suitable prey for the cannon. They are also effective against infantry, as the sheer weight of fire almost garantees a kill, especialy in large groups of enemy soldiers. The 23mm ammunition supplied is HE.

Unguided missiles

There is a variety of FFAR types carried on the MI-28 in different versions. The most common is the 80mm S-8 type, a good multi-purpose rocket with an HE wardhead. This weapon can destroy most armour with two hits. Anything smaller than that will either be totally destroyed or so damaged that the crew abandon it. The MI-28A FFAR version carries four rocket pods, a total of 80 missiles. The standard MI-28N carries two rocket pods. The s-8 rocket is, as mentioned, a multi-purpose weapon and this allows it to be used against many diferent types of target other than armour. It is a good all-round weapon with the ability to destroy troops, buildings, fortresses, and as well as all the ability to kill

tanks. If there is no dedicated anti-tank weapon or anti personel weapon, this can be used to the same effect, which is why it is considered part of the standard armourment of the MI-28N.

 The other types of unguided weapons include the S-13T anti-personel rocket. This is a high explosive rocket which fragments on impact with sold surfaces and sprays a rain of metal shards out 20 feet or more. Any troops in the vicinity of the explosion will be slaughtered, making it very effective against enemy soldiers'attacks. This rocket requires no direct hit against any unit to make it effective, so it is a good weapon for having to shoot quickly with no time to aim, for instance at an enemy stinger soldier, where shooting first can save your machine. S-13T rockets also have limited anti-armour ability, but it has minimal effectiveness against armour so it is generally considered a waste of ammunition and should only be used in such a role in the absence of more effective weapons. The other type of rocket is the S-13D. This weapon is designed as an anti-tank rocket, with a high power and is very effective. It is larger than the S-8 so less can be carried, but it makes up for that with being a one-shot one-kill weapon is most circumstances. The S-13D is of no use against troops. This is for the fact that as an AP warhead, it does not shatter on impact and send out shrapnel. A weapon of this sort requires a direct hit for it to be effective and cause damage to armour formations.

Guided Missiles

There are two main types of guided missile carried on the MI-28. The Anti tank missile, the AT-9 ATAKA is a hard-hitting weapon for use against medium to heavy units. Anything smaller than an M60 can be considered a waste of ammunition. The Ataka is designed to be used against american tanks like the M1, but is also designed with an in-built air to air capacity. This allows it to be used against enemy helicopters and slow moving aircraft like the OV-10 Bronco. An armament that has this capability means that not so many diferent types of weapon need to be fitted, and more of one type can be. For example, if an MI-28 did not have the ability to use it's AT-9s as anti-aircraft weapons, it would have to carry AAMs on seperate hardpoints, sacrificing the S-8 rocket pods or machine gun pods. That limits the capability of the aircraft more than not having any AAM capacity at all. By having the air to air capability, it means the MI-28 effectively carries two types of weapon on one hard point and does not sacrifice any anti-tank weapons because of that.

The other type of guided missile carried in this add-on is the SA-18 Igla missile. This is an air to air missile that can shoot most types of enemy aircraft down. The weapon is very efficient at shooting down helicopters, and has a very good hit rate. It has a longer range than the AIM-9 sidewinder, and is more reliable as a result of it being harder to fool with electronic countermeasures or other types of jaming equipment. The missile is a radar guided rocket, so flares and other heat sources do not distract it like the AIM-9 can be.

Chapter 4: Mission Editing

Important notes:

!! DO NOT USE "REMOVEALLWEAPONS" COMMAND ON THE MI-28!!

The Mi-28 uses a new way of saving variables, they are stored as ammo into the chopper, and also the start-up sounds are stored as magazines. Using "removeallweapons" might seriously screw the whole thing.

At the moment we have some serious trouble since some of the event handlers we use don't work as intended. BIS will fix those hopefully in v1.92, so we might need to update the scripts later for that.

The Havoc is optimized for MP gaming, which will result in downwash shown on every client and several other issues. For get that working, all havoc need to be initialized with crew in it, or the crew needs to get in the chopper. Do not use moveindriver / moveingunner for that.

NOTE: The MI-28 is the direct counterpart to the AH-64 apache. The common misconception is that we made this helicopter to fight the RAH-66 comanche add-on. The KA-52 is considered the adversary for the RAH-66, so in dog fight situations the MI-28 has trouble against the comanche and should not be used in missions together. We suggest you use the AH-64 and AH-1 as enemies for the MI-28, being more equally matched as they are in real life.

Commands:

The Mi-28 can be adapted to certain circumstances. The following commands are recognized. Simply initialize those variables globally over mission init.sqs.

- "DKMM_choppers_nodust = true" turns of downwasheffect.
- "DKMM_choppers_dustparam = [type, (snow)]" will adapt the downwashscripts to a certain map. Type might be 0 = standard, 1 = vietnamred, 2 = desert, 3 = snow;
  Snow is optional for standard islands and indicates on which height above sea level snow is on the mountains. Default is 630 meter which fits with the white peaks of Nogova.
  Attention: Desert Island will be recognized automatically by the scripts.
- Place a .paa picture of the custom island you want in mission folder and use "DKMM_choppers_custommap = "nameofpic.paa" to get a custom map used by the mapdisplay.
- "DKMM_choppers_shortstart = true" disables long starting sequence of engines.
- "this add magazine "DKMM_Mi28_Ammobox"" adds a small box to the cargo bay that can be unloaded and used for refilling some of the choppers ammo.

Classes:

Vehicle classes:

- DKMM_Mi28_A : Mi-28 A
- DKMM_Mi28_AB : Mi-28 (FFAR)
- DKMM_MI28_N : Mi-28 N
- DKMM_Mi28_NG : Mi-28 N (Gun pods)
- DKMM_Mi28_NAA : Mi-28 N (AA)
- DKMM_Mi28_N_wreck : Mi-28 N wreck
- DKMM_Mi28_A_wreck : Mi-28 A wreck
- DKMM_Mi28_Pilot : Pilot
- DKMM_Mi28_abox : Ammo box
- DKMM_Mi28_cw1 : weapon for AB wreck
- DKMM_Mi28_cw2 : weapon for NG wreck
- DKMM_Mi28_cw3 : weapon for N wreck
- DKMM_Mi28_cw4 : weapon for A wreck
- DKMM_Mi28_cw5 : weapon for NAA wreck

Weapon classes:

- DKMM_Mi28_30HE : 240 x 30mm HE
- DKMM_Mi28_30AP : 230 x 30mm AP
- DKMM_MI28_AT6L : 16 x AT-9
- DKMM_MI28_23mmL : 1000 x 23mm
- DKMM_MI28_S8_40 : 40 x S-8
- DKMM_MI28_S8_80 : 80 x S-8
- DKMM_MI28_SA18L : 4 x SA-18
- DKMM_MI28_S13T_6 : 6 x S-13T
- DKMM_MI28_S13D_4 : 4 x S-13D
- DKMM_Mi28_radio : 10 x SOS Radio
- DKMM_Mi28_SmokeRed : 1 x smoke red
- DKMM_Mi28_SmokeGreen : 1 x smoke green

Mi-28 N (AA)

Mi-28 A (FFAR)

Mi-28 A

Mi-28 N(Gun pods)

Mi-28 N

<u>Credits:</u>

Vit for teaching skinning techniques and finding good information for us.

Engine sounds made by Jim.

Vektoboson (http://home.arcor.de/vektorboson) for his very impressive downwash script.

"Nashe Oruzhie" (Our Weapons) Mod (http://ofp.ussr-online.net/nasheorujie) for some scripting ideas.

Dinger of Chain of Command, who is always a source of inspiration :)

Big thanks all people who helped.

Some sounds were used from 'Gunship' game.

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