Brief description of the patch 4.15

Il-2 Sturmovik: 1946

v4.15

Warning

This version **4.15 is not compatible** with previous versions when playing online. For compatibility when playing over the network, the server and the game must be the same version.

Attention: Version 4.15 is intended to be installed only on top of the merged version of the simulator (FB+AEP+PF+46) updated to versions 4.14.1.

Additional information for installing the add-on version 4.15
(Please read carefully)

The version **4.15** for the game "IL-2: Sturmovik" has to be installed only on top of the update version **4.14.1**.

In order to install this add-on, run the file **IL2_415_MULTI.exe** and follow the on-screen instructions.

Please note that this add-on is impossible to install over standalone Pacific Fighters.

Content of 4.15m

New Flyable Planes (including new added cockpits):
- Dewoitine D.520, 1939
- Ju.52/3mg4e, 1937
- Ju.52/3mg5e, 1939 (Seaplane)
- He.177-A3, 1942 (Tail gunner's cockpit)

New ground objects:
- Artillery tractor "Voroshilovets" (USSR)
- Update the 3D model of the GAZ-M1 car
- Various camouflage options for Bulk Carrier, Tanker and German MFP barge
- Update and fixes on texture for all objects in the Car section

List of changes:

Updating the Java version:
- The biggest change in recent years in the development of the IL-2 Sturmovik game is the update of the built-in Java VM from version 1.3.1 to Java8. This change allows the game to run better on modern operating systems and make better use of the limited resources of the game engine more efficiently.

Updating the Launcher files:
- Also updated the executable files for launching the game - il2fb.exe. The installation includes two versions of the file - with console support and without support (GUI only version). The files support advanced game launch options, including the support for mods. The file type can be selected when installing the patch or replaced manually by taking the necessary file from the "EXE" folder.

Sound related updates:
- Another notable update in the new version is the rewritten sound libraries.
Together with third-party sound wrappers, they allow you to use them on modern operating systems (from Windows Vista to Windows 10) audio positioning technologies such as EAX 3.0, EAX 4.0 and EAX 5.0. EAX 3.0 allows up to 32 audio channels, EAX 4.0 up to 64, and EAX 5.0 up to 128.

Unfortunately, starting with Windows Vista, 3D sounds positioning technologies do not work with IL-2 Sturmovik without the use of third-party wrappers. The 4.15 patch installer includes 4 sound wrappers:
 Creative ALchemy – for Creative sound cards, supports for EAX1.0-EAX5.0.
 DSOAL – Open-source application for any sound cards, support for EAX1.0-EAX4.0.
 DSOAL_XP – Open-source application for any sound cards, support for EAX1.0-EAX4.0.
 IndirectSound - application for any sound cards, support for EAX1.0 and EAX2.0.
The use of sound wrappers returns to the game support for 3D positioning of sounds, makes them three-dimensional. The correct operation of the wrappers depends on the version of the operating system and the type of audio equipment. In addition to the presented variants of wrappers, there are others.
- Changed game sound settings window.
- Added a number of sounds for external models (whistle of the wind, the opening of the canopy).
- For sounds in the cockpit, the number of sounds from bullets and shells hitting the aircraft has been increased to 5. The type of sound depends on the caliber of the weapon that caused the damage.
- Removed the sound of "tire braking" when an aircraft appears at the airfield.
- For turret weapons, update the position of the sound so that the sound moves with the turret.
- Expanded set of available sounds in the cockpit.
- Aircraft with windscreen wipers have 3D positioning of the sound of the wiper in the cockpit
- For the MBR-2 aircraft, there is a new sound of opening the canopy, plus its 3D positioning.
- 3D positioning of inside-specific sounds (so far only on He-177).

Arming panel:
- Displaying a 3D model of an airplane in the preview window is performed more correctly. Now the appearance of the aircraft with various weapons options fully corresponds to the appearance of the aircraft in a working mission.
- New possibilities for rendering skins and 3D models when choosing weapons options (example of use: Ju.52/3mg4e aircraft).

Full Mission Builder:
- Fixes in the full editor keyboard settings window - the settings of the second keyboard shortcut could be reset.
- Add an option to the context sub-menu to change of the army of the selected group of objects.
- The aircraft overview tabs now display the specified aircraft armament (missiles, bombs, torpedoes, pylons, etc.)
- Fix when moving elevated static artillery objects

Network missions:

- For airfields of the type "Test runway", added the ability to control the landing lights located on them at the request of the player. Previously, the function of turning landing lights on and off by the controller worked only for stationary airfields.
- For the MBR-2 aircraft on a wheeled chassis, the impossibility of appearing in statics on stationary airfields has been fixed.
- Fixed a crash damage message in online missions.
- In the player's callsign, it is now allowed to use only English characters and Russian characters, and some special characters.
- For the online game mode, when a player connects to the server, it is required that his callsign is unique and does not repeat the callsign of a player already present on the server.

- In version 4.15, for the online game mode, the players' callsigns are checked for valid characters. Invalid callsigns include:
 - empty callsigns or call signs consisting of only spaces
 - callsigns containing large or small characters of any alphabet except English and Russian
 - callsigns containing special characters not present to the list of acceptable characters: '#', '&', '+', '-', '0', '1', '2', '3', '4', '5', '6', '7', '8', '9', '@', '_'. Please note that the space character is not included in this list!
 - callsigns repeating the name of service messages used when logging the mission on the server:
"by", "is", "seat", "crashed", "shot", "and", "destroyed", "landed", "in", "turned", "loaded", "damaged", "has", "entered", "removed", "selected", "CRT2", "started", "stopped", "dropped", "paratrooper", "cargo", "engine", "fuel", "oil", "gear", "keel", "shaft"

Cockpit mirrors:

- Added an option to increase the resolution of the image in the cockpit mirror (for those aircraft where there is a mirror). You can enable and configure the option through the parameter in the current section of the video settings [Render_OpenGL] or [Render_DirectX] by changing the values of the **CockpitMirrorQuality** key. A value of 0 sets the mirror resolution to 256 pixels, which is the default. Value 1 is 384 pixels, 2 is 512 pixels, 3 is 768 pixels, 4 is 1024 pixels. The maximum value cannot be higher than the minimum game display size (screen height), and if it is exceeded, it is automatically reduced by the game.
- Added support for up to 3 independent mirrors in aircraft cockpits. In the current version, this functionality is used only on the He.177A-3 aircraft. Since this mode heavily loads the video subsystem, a new key has been added in the control settings 'Combination of Mirror', which allows you to disable any of the additional mirrors and leave only the necessary ones visible. The previous key responsible for turning on/off the display of all available mirrors has also remained.

Video settings:

- The **ShowShadowCarrier** key has been added to the video settings section, which allows, when setting the value to 1, to enable the display of shadows on the deck of aircraft carriers from the aircraft carriers themselves (or rather from the deck superstructures). Previously, shadows on the deck were displayed only from planes taking off and flying by, as well as from other aircraft carriers standing nearby (but not from the aircraft carrier itself). There may be a "rattle" of the shadow when deleting, it is recommended to combat this phenomenon by changing the PolygonOffsetFactor parameter in the video settings section.
- Regardless of the settings of the TypeClouds parameter, new clouds corresponding to the TypeClouds=1 value are used.
- There is an accelerated function for determining available video modes to speed up the launch of the game for Windows 8, 8.1 and 10 operating systems. The installer activates this function automatically for the specified OS when patch 4.15 is installed.

Various changes and fixes:

- Changes in the FM of Ju-52.
- Added nation "Vichy".
- On the B-24D-100CO, the animation of the windshield wiper in the cockpits has been fixed.
- Editing the function of opening bomb bays (they cannot be opened when there are no bombs in the bomb

bay). AI bomber now doesn't open bomb bays before dropping if they don't have bombs in them.
- For the He-177A-3, the effects of ejection of cartridges when firing on-board weapons have been added.
- For the He-177A-3 changed the position of the tail ANO.

- When flying in a group controlled by a player, the AI wingman now repeats the operation of opening and closing the bomb bay after the player.
- Configurable buffer size when writing to the console log (file log.lst).
-The ricochet of bombs on a surface is the same as in patch 4.09.
- Fixed display of air filters for Bf-109 on desert maps.
- Fixed animation on the MBR-2 aircraft when an open canopy is damaged.
- Fixed on the Ki-27 aircraft the display of bomb racks in the mission.
- Fixed on the P.11C aircraft the display of the bomb racks in the mission.
- Fixed some parachute containers have had their rotation reset after dropping.
- In the cockpits of turrets, a function for precise movement of weapons has been added. When moving the mouse pointer by 1-2 pixels, the weapon moves more accurately (and correspondingly slower), with stronger mouse movements, the weapon moves as before.
- Limited movement of the arrow sight grids on the He-177A3 aircraft during overloads
- Load time optimization for very large mission files.
- Added a complete update of all default objects from the Car category (cars, armored cars, motorcycles, etc.). Basically, textures have been updated, winter camouflage has been added, 3D has been partially corrected - now the drawing distance of these objects has been increased and standardized, and work has also been done to eliminate video buffer overflow when rendering large groups of identical objects.
- Ju52G4e: Added use of Customization.ini file. Allows you to control the visibility and color of the chassis fairings, bind to a default or custom skin a chassis fairing that matches its color.
- Ju52G4e/Ju52G5e: full skin replacement, including winter and desert.
- All aircraft using the Customization.ini file now display the 3D model changes specified by this file in the weapon settings windows of the quick editor, and in the full editor on the overview tabs of the aircraft being edited.
- Fix during processing of Customization.ini files on all used aircraft to allows empty lines and the keywords summer, winter, desert (where such camouflage is available)
- Added debug parameter DebugCustomization to the conf.ini file in the [game] section. When this debugging option is enabled (DebugCustomization=1), when an aircraft skin is selected, the name of the skin and the corresponding hash value of this skin will be printed to the console. These parameters are used only in aircraft with a configuration file Customization.ini

Daidalos Team would like to thank the beta testers and users who took the time and effort to

find and describe some annoying bugs.

Thank you to anyone we may have forgotten!