

BUFFOUT 4 DICTIONARY

LIST OF KNOWN CRASH LOG MESSAGES & ERRORS WITH SOLUTIONS & FIXES (FALLOUT 4 ONLY)

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*Crash messages / errors with the asterisk are not yet confirmed and have a much higher chance to end up as false positives. See the last three pages for more details and solutions.

AUTHOR NOTES

- Click on any crash names in the Table Of Contents above to jump to the relevant text in this document. In the online version, you need to also click on the [Bookmark](#) line / text.
- [CTRL] + [F] is your friend. Use it often, use it plenty and you will know mercy.

- If necessary, you can contact me directly for any suggestions or corrections.
You know where to find me.

INTRODUCTION

This document lists most common [Buffout 4](#) crash log messages and errors, and ways to prevent or fix them. It's meant to be used with [Crash Log Auto-Scanner](#) as it will detect all known crash messages for you. Online version of this document is now available [here!](#)

- **AUTOSCAN.md** output files will show any detected crash log error messages right below the **CHECKING IF LOG MATCHES ANY KNOWN CRASH MESSAGES** section with **CULPRIT FOUND!** Search (CTRL + F) for these detected crash messages here and follow solutions / instructions.

EXAMPLE

Let's say you see this in the -AUTOSCAN.md output file:

```
# Checking for BA2 Limit Crash.....CULPRIT FOUND! #
```

Therefore, you would look up / search for **BA2 Limit Crash** in this document.

It will also show the crash log / error message Priority value (Ex. *Priority : [5]*)

Crash errors / messages with a higher priority should be looked up and dealt with first!

HOW TO READ AUTOSCAN.MD FILES

IF YOU HAVE TROUBLE RUNNING THE AUTOSCANNER PROGRAM OR IT UNEXPECTEDLY CRASHES, ALL TROUBLESHOOTING INSTRUCTIONS ARE IN THE PINNED POST [HERE!](#)

AUTOSCAN.md files are generated by the Crash Log Auto-Scanner and can be opened by any text editor. For best clarity and formatting, I strongly recommend you open them with Notepad++ or other similar, more advanced text editors. Avoid using regular Windows Notepad or WordPad.

YOU ARE MEANT TO OPEN AND READ AUTOSCAN FILES YOURSELF, NOT JUST POST THEM ON REDDIT OR OTHER SUCH SITES WITHOUT EVEN BOTHERING TO LOOK AT THEM.

The autoscan file will be divided into several segments, here's what they all mean:

```
=====
Main Error: EXCEPTION_ACCESS_VIOLATION...
=====
```

This segment is the main error caught by Buffout 4. In 99% of all cases, the main error will be:

EXCEPTION_ACCESS_VIOLATION, meaning the game couldn't access some required data for one reason or another. The next part is the program or file where the crash originates from (ex: Fallout4.exe) and lastly the call stack address (ex: +24FE2E1) that was last accessed before the exception occurred. **NOTE: This value has NOTHING to do with any Mod, Plugin or Game IDs.**

The part **above** the Main Error shows the name of the scanned crash log and the Auto-Scanner version used to scan it. The part **below** the Main Error shows the version of Buffout 4 that was used when the crash log was generated and the latest version of Buffout 4 available at that time. You should always have the latest version of Buffout 4, check [this page](#) and update if necessary.

=====

CHECKING IF BUFFOUT4.TOML PARAMETERS ARE CORRECT

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This segment checks the **Buffout4.toml** file inside the game's Fallout 4\Data\F4SE\Plugins folder. Depending on which mods you have installed, you might need to manually correct these parameters in Buffout4.toml with a text editor (Notepad++) as explained by this segment.

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CHECKING IF LOG MATCHES ANY KNOWN CRASH MESSAGES

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This segment checks the database of all crash errors that are either known about or can be solved. If any crash messages show CULPRIT FOUND, this requires that you look up that crash error in this document. [CTRL] + [F] keys are your friend, you can also use the Table Of Contents.

=====

CHECKING FOR MODS THAT CAN CAUSE FREQUENT CRASHES

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This segment checks the database for mods that are known to cause major problems or frequently crash the game. You are supposed to temporarily disable any mods detected here and recheck your game to see if the crash went away. If it still crashes, continue to the next segment.

=====

CHECKING FOR MODS WITH SOLUTIONS & COMMUNITY PATCHES

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This segment checks the database for mods that can cause problems or crashes, but have available patches, fixes or alternatives which are also linked. You can also visit [this article](#), which lists all important community patches and fixes for the base game and mods that need them.

=====

CHECKING FOR MODS PATCHED THROUGH OPC INSTALLER

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This segment checks the database for mods that are patched through my own Optimization Patches Collection mod. You are supposed to visit [this page](#), then download and install the main file with your mod manager. Don't worry, OPC will be updated soon to fix any existing issues.

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CHECKING IF IMPORTANT PATCHES & FIXES ARE INSTALLED

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This segment checks if very important mods, patches and fixes which all players should have are installed. If you're missing any of these, I strongly recommend that you install them with your mod manager or check my [main guide](#) for detailed instructions, or [this article](#) for the full list.

=====

SCANNING THE LOG FOR SPECIFIC (POSSIBLE) CULPRITS

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This segment checks the crash log for any mentions of Plugins, FormIDs or Game Files that were possibly involved when this crash occurred. If you weren't able to fix the crash or find the culprit so far, you can search for any Game / Mod Files, look up any FormIDs in FO4Edit or disable any Plugins listed here to further check if they are related to the crash or caused it.

FINDING THE CULPRIT WITH A BINARY SEARCH

Sometimes, the fastest or only available solution relies on brute force.

The most efficient method for this is done through a binary search.

To perform a binary search, disable half of your mods and test each half in-game to see which half causes the crash. Once you determine which half crashes the game, disable half of the mods in that group to see which half crashes again. Repeat this procedure until you're left with just one mod, which should be that one causing the crash. Repack that mod into BA2 archives with [CAO](#) or simply disable / uninstall the mod if that doesn't help. Afterwards, enable all other mods.

Example with some mods A, B, C, D, E, F, G, and H:

A B C D E F G H

Crash

ABCD | EFGH

Crash

AB | ~~CD~~ EFGH

Crash

A | ~~B~~ CDEFGH

No Crash

Therefore mod B must be causing the crash since the game didn't crash while only mod A was active, while it did crash when both mods A and B were active with all other mods disabled.

ONCE YOU FIND THE CULPRIT (FAULTY MOD OR PLUGIN)

Once you find the mod / plugin that's causing the crash, you have several available options:

A) Keep the mod disabled or uninstall it completely. While the easiest solution, keep in mind that this isn't the best or even adequate solution in every case, since some mod data could get baked into your save file, which won't get properly cleared until you start a new game / playthrough.

This is a major problem for heavily scripted and mods that add new quests and NPCs. If you're forced to disable these to prevent a crash, you'll be better off starting a new game / playthrough. You *could* continue on the same save despite my warnings, just know this can backfire on you.

B) Adjust the load order of that mod. If you're lucky, the cause of that crash could be simply a conflict between two or several mods. You can try placing the mod that caused the crash at the end of your load order, so it loads after all other mods. This ensures that nothing from that mod gets overwritten and changing the load order doesn't affect your save files in any negative way.

C) Clean and pack the mod into BA2 archives. Cleaning is done with [FO4Edit's](#) Quick Auto Clean and the Creation Kit. Instructions for this can be found in my [main OGC 2 guide](#) or in [this article!](#)

And if the mod isn't already packed into BA2 archives, it's highly advised that you pack it yourself with [Cathedral Assets Optimizer \(CAO\)](#), the game is much more efficient in accessing data from packed mods. Download and use the latest **5.3.x** version (6.x.x is not yet compatible with FO4).

CRASH ERRORS / MESSAGES

=====

Main Error ▾ **Stack Overflow Crash** | [EXCEPTION_STACK_OVERFLOW](#)

Usually caused by recursive Leveled Lists. Your Bashed Patch is most likely to be the source of this crash message, since it's used to merge NPC & Item Leveled Lists (LLs).

Solution: Disable your [Bashed Patch](#). If crashing stops, you should try rebuilding the patch or create a Merged Patch in FO4Edit as it also covers Leveled Lists. If disabling or rebuilding the Bashed Patch doesn't help, this crash was likely caused by another mod with broken LLs.

In that case, run FO4Edit with your complete load order, select all plugins (CTRL + A), right click and **Check For Circular Leveled Lists**. After it completes the check, switch to the **Messages** tab on the right and see if there's any output. If nothing is shown, all of your mods are fine.

One of the mods that can cause this crash is Better Locational Damage - Leveled Lists. Other mods and plugins that extensively modify Leveled Lists are much more likely to cause it as well.

Be careful when adding mods that extensively make changes to Leveled Lists mid-save, since sudden and heavy changes to LLs during an ongoing game could also cause this crash.

Some early reports suggest the [Reference Cap / Limit](#) being at fault here. Run [this script](#) in F04Edit with your full load order to check the reference count. If total reference count exceeds 2.1 million (2^21), start disabling mods with most references until you fall below this limit.

If all else fails, find the culprit through a binary search method, mentioned on the fourth page.

=====

Main Error ▾ **Bad Math Crash** | [EXCEPTION_INT_DIVIDE_BY_ZERO](#)

Likely caused by either Vsync / Refresh Rate settings or unsupported wav sound files.

Solution: Disable Vsync from all four possible sources or check after each one separately:

- Disable Vsync in INIs by running [BethINI](#) and unchecking Vsync in the [General Tab](#)
- Disable Vsync in GPU driver settings, guide for both Nvidia and AMD available [here!](#)
- Disable Vsync by setting ForceVSync to false in [enblocal.ini](#) (game installation folder).
- If you installed [Vulkan Renderer](#), disable Vsync by setting **dxgi.syncInterval** to **0** in [dxvk.conf](#)

If disabling Vsync everywhere doesn't help, make sure your monitor's refresh rate is set to 60 Hz, instructions for this available [here!](#) And if that doesn't help, this crash was likely caused by an unsupported audio (wav) file and you'll have to find the culprit through a binary search.

=====

Main Error ▾ **Null Crash** | [EXCEPTION_ACCESS_VIOLATION at 0x000000000000](#)

Caused by mesh (.nif) files that are broken or are missing important properties.

Solution: Disable the plugin responsible for this crash and contact its mod author. If the crash log doesn't mention the plugin or the file path where the bad mesh originates from, you'll have to find the mod causing this crash with a binary search. Example of a mod that can frequently cause this crash is [Functional Displays](#) though this mod can be actually fixed as described in this [article!](#)

=====

Main Error ▾ **Active Effects Crash** | [EXCEPTION_ACCESS_VIOLATION at 0x000100000000](#)

Seemingly caused by any broken script that adds Active Effects.

Solution: Disable the plugin that's causing this crash and contact its mod author. The only currently known mod that can cause this crash is [Mutant Menagerie](#)

=====

DLL Error ▾ **Nvidia Driver Crash** | [nvwgf2umx.dll](#) (*Log will usually spam this DLL*)

Nvidia specific crash log related to all driver versions 445 and above. Crashing happens at random

or is consistent at certain places. Exact cause and relation to anything is currently unknown. Crash logs that spam this dll file / message don't provide any useful information whatsoever.

Solutions: Solution **A)** should work but if it doesn't or hinders performance, try the rest. Other solutions aren't guaranteed to work. This crash might never completely go away.

A) Install [Vulkan Renderer](#). This also should be the most consistent solution in most cases. You don't need to download FSR/Magpie, just the main Vulkan files. Here are the correct installation steps if you want to have both ENB and Vulkan Renderer working at the same time:

0.) Make sure you have the latest graphics drivers installed! Both AMD and Nvidia drivers already have the latest version of Vulkan API, so there's no need to run any included Vulkan installers.

1.) Manually download the latest [Fallout 4 Vulkan 2.5](#) main file (version for manual installation) and extract the downloaded archive somewhere (don't extract into your game folder yet).

2.) Manually download the latest [ENB](#) version for Fallout 4, then extract all files inside the WrapperVersion folder into your Fallout 4 game folder (where Fallout4.exe is located).

3.) Rename the **d3d11.dll** from extracted Vulkan Renderer files into **d3d11_vulkan.dll** then take that dll and all files from Vulkan Renderer and move them into your Fallout 4 game folder.

4.) Open [enblocal.ini](#) and edit the following lines so they match what's displayed here:

[PROXY]

EnableProxyLibrary=true

InitProxyFunctions=true

ProxyLibrary=d3d11_vulkan.dll

[GLOBAL]

ApplyStabilityPatch=true

UsePatchSpeedhackWithoutGraphics=false

CAUTION: When installing any ENB presets, **DO NOT** let them overwrite your [enblocal.ini](#) Enblocal settings should always stay the same across **any and all** installed ENB presets.

Vulkan Renderer is working correctly once you launch the game and see the GPU stats screen in the top left corner. To disable stats, go to your Fallout 4 game folder, open [dxvk.conf](#) and set **dxvk.hud = 0,scale=1**

*If you just want the FPS counter, change dxvk.hud = 0,scale=1 to **dxvk.hud = fps,scale=1***
Other solutions to this crash are listed below if Vulkan Renderer doesn't work out for you.

B) Use [BethINI](#) and switch from **Fullscreen** to **Borderless** mode or vice versa, or edit **fallout4custom.ini** in your Documents\My Games\Fallout4 folder by adding these lines:

[Display]

bBorderless=0

bFull Screen=1

OR for Borderless:

[Display]

bBorderless=1

bFull Screen=0

Yes, **bFull Screen** needs to have an empty space between Full and Screen.

MO2 users must also disable Profile Specific INIs in Profile Settings (Ctrl + P)

C) Apply the same solutions listed for all other crash types, most notably [flexRelease_x64.dll](#), [X3DAudio1_7.dll](#), [d3d11.dll](#) and [DLCBanner05.dds](#) This ensures that [nvwgf2umx.dll](#) crashes aren't related to other crashes and that you aren't experiencing multiple problems at once.

D) Disable any and all mods that edit Player / NPC faces or face features in any way. This includes mods like Looks Menu, Customization Compendium and mods that add NPC face replacers, companion face overhauls, high quality face textures or additional face features like hairs and tattoos. You should narrow down the exact culprit through a binary search.

E) Completely reset your current ini configuration files, though you should make a backup first. INI reset is done by deleting all game .ini files inside your Documents\My Games\Fallout4 folder (also delete any similar files generated by other programs in the same folder), then run the game once with Fallout4Launcher.exe up until you reach the Main Menu, then exit the game and readjust your INI settings with BethINI. If this doesn't help, you can restore your original INIs.

F) This crash might be related to third party software screen overlays, therefore it's advised to disable overlays from every running application that might have them, including: Discord Game overlay, Steam Game overlay, Riva Tuner Metrics overlay, GeForce Experience overlay, Windows XBOX Game Bar overlay and any other 3rd Party GPU or FPS / framerate overlays.

G) Turn off overclocking and custom game profiles in Nvidia GeForce Experience / MSI Afterburner. If you're running the game on a laptop, keep the high performance power plans enabled, but any other performance presets should be turned off. Make sure the power plan isn't actually throttling your laptop's graphics card, more info and solutions found [here!](#)

H) Update your **Motherboard BIOS**. These updates can increase system stability, though their success rate on preventing this exact crash type is unknown. Since every board is different, you'll have to search for the motherboard model and update procedures yourself. Start with [HWInfo](#), a free program that shows detailed motherboard info, then search for any updates for your mobo.

I) Enable V-Sync with your monitor refresh rate set at 60 Hz. FPS Limit tutorial with images available [here](#). If that doesn't help, lock framerate to 60 FPS and disable [High FPS Physics Fix](#) mod if you have it installed. Locking the framerate can be done in several ways, though because the crash itself is driver related, you should do so directly from your graphics driver settings.

J) Completely reinstall your graphics drivers with factory settings applied. If that doesn't help, downgrade to any version **445.xx or older** (442.74 or 442.92 are known to work in most cases).

Download links for these drivers can be found [here](#). If you can't find working drivers on that site, try [Advanced Driver Search](#) and search for your GPU model (use [HWInfo](#) if you aren't sure). If older driver versions do not make the situation better, install the newest drivers for your GPU.

=====

DLL Error ▾ Nvidia Debris Crash | [flexRelease_x64.dll](#) | +03EE452

Nvidia specific crash log. Caused by the Nvidia Weapon Debris graphical effects.

Solution: Install [this mod](#) or disable manually by adding these lines to fallout4custom.ini:

[NVFlex]

bNVFlexDrawDebris=0

bNVFlexEnable=0

bNVFlexInstanceDebris=0

=====

DLL Error ▾ Audio Driver Crash | [X3DAudio1_7.dll](#) | [XAudio2_7.dll](#)

Likely caused by Windows OS or incorrectly compressed audio / sound files from mods.

Solution: Install [DirectX Runtimes June 2010](#). If the crash no longer happens, but the audio now sounds weird or muffled, search for your motherboard model on the internet and download the official audio drivers for it. After installing these drivers, adjust driver settings and check the in-game audio to confirm everything sounds normal. If you're still getting the same crash:

- Run **services.msc** with Windows Run, find and right click on **Touch Keyboard and Handwriting Panel Service** > Properties > Startup Type and set it to **Disabled**, then restart your PC.

- Open Windows Powershell or Console (CMD) in Admin Mode and copy-paste each command shown below, press Enter after each one to run them. After they complete, restart your PC.

regsvr32 xaudio2_7.dll

sfc /scannow

If none of the above helps, recheck and disable any mods that add or edit audio files, for example combat music, ambient music, new radio stations, new sound effects, NPC or Player voice lines.

=====

Stack Error ▾ **Corrupted Audio Crash** | [BSXAudio2DataSrc](#) | [BSXAudio2GameSound](#)

Caused by corrupted audio (.xwm) files that the game cannot process correctly.

Solution: Unfortunately, the only solution is to perform a binary search, as the log won't help. Your only hint is that the offending mod must contain .xwm (or .wav) audio files.

Most likely the audio file causing this crash has to be resaved with the correct properties. If you're a modder, check audio properties (bit rate, sample rate, etc) from base game audio files and make sure your modded audio files match them to prevent this type of crash in the future.

=====

DLL Error ▾ **Generic Crash** | [tbbmalloc.dll](#)

The game is either missing or it failed to load some Buffout 4 requirements, OR this is simply a generic error that has no relevance to the crash log.

Solution: Make sure you haven't missed any Buffout 4 installation steps listed in [this article!](#)

- If you have **xSE Plugin Preloader** mod installed, open its xml file inside your Fallout 4 game folder (where Fallout4.exe is located) with a text editor of your choice and change line 14: `<LoadMethod Name="OnProcessAttach">` to `<LoadMethod Name="OnThreadAttach">`.

If that doesn't work, try `<LoadMethod Name="ImportAddressHook">`

- If the game fails to launch or crashes before the main menu, temporarily remove all Buffout 4 files and try again. If this works, restore all Buffout 4 files, then delete xSE Plugin Preloader.xml and IpHlpAPI.dll. Note that xSE Preloader does not work for some players for unknown reasons, but it's not strictly necessary for Buffout 4 to work and can be safely removed at any time.

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DLL Error ▾ **Rendering Crash** | [d3d11.dll](#)

Failure in rendering. Can be caused by many things and isn't limited to a single mod.

Solution: This crash is usually caused by **Classic Holstered Weapons** mod. Edit its INI file and set **IsHolsterVisibleOnNPCs** to **0** or remove the mod entirely. If this crash persists, make sure you didn't delete any core ENB / ReShade files or incorrectly configured Vulkan Renderer.

If you have [Vulkan Renderer](#) installed, recheck your [enblocal.ini](#) and [dxvk.conf](#) settings and make sure that you've properly installed all Vulkan Renderer files, correctly renamed the [d3d11.dll](#) to [d3d11_vulkan.dll](#) from Vulkan Renderer and edited [enblocal.ini](#) to match that change.

- Disable any antivirus software (Avast, Bitdefender, Malwarebytes, McAfee) or add Fallout 4 and Mod Organizer 2 to their Ignore list, as antiviruses might be blocking some important mod files.

- If you have [Looks Menu](#) installed, open **Buffout4.toml** in Fallout 4 \ Data \ F4SE \ Plugins folder with a text editor and make sure that **F4EE** is set to **True** under **[Compatibility]**

Very rarely, this crash can be caused by an active GPU overclock profile, either through your GPU drivers or MSI Afterburner. Disable any overclocks and run your GPU on stock / default settings to check if they caused this crash. Tune or lower your overclock settings if necessary.

Even more rarely, this crash can be caused by corrupted INI files, so you'll have to reset them.

INI reset is done by deleting all game .ini files inside your Documents\My Games\Fallout4 folder (also delete any similar files generated by other programs in the same folder), then run the game once with Fallout4Launcher.exe up until you reach the Main Menu, then exit the game and readjust your INI settings with BethINI. If this doesn't help, you can restore your original INIs.

=====

DLL Error ▾ Body Physics Crash | [cbp.dll](#)

Mods that add different body physics or change the female body usually trigger this crash. Caused by either these mods or a compatibility issue with Classic Holstered Weapons.

Solution: Make sure you've installed all patches, that all mods are in the correct order or simply disable Classic Holstered Weapons to confirm it's causing the crash.

Correct installation procedures, paraphrased from and credit to [chew222](#) for the solutions:

- In Bodyslide, choose **CBBE Body** (NOT CBBE with Physics and NOT Cherry Hotalings)
- Make sure you have the latest version of [CBP](#). If you keep crashing, try version [0.1.9](#)
- Download and install armor and clothing mods **without** physics and batch build.

[skeleton.nif](#) | Variation of the issue above. CHW mod specifically does not like custom skeleton meshes which physics or body mods usually modify. You can also try installing [this mod](#).

If you get this crash message / error without CHW installed, another reason for this crash could be [Unique Player](#) and other similar unique body mods. Disable such mods to confirm.

And if you're running your game with **Advanced Animation Framework** and adult content oriented mods, switch to an older [Looks Menu](#) version **1.6.18**, as newer versions tend to break certain body (erection) morphs and can cause a crash if C key is pressed during character creation.

For all other AAF and adult mod related problems, visit the [AAF \(Dagoba\) Discord Server](#)

=====

Stack Error ▾ Antivirus Crash | BitDefender Crash | [bdhkm64.dll](#) | [usvfs::hook_DeleteFileW](#)

Your antivirus is blocking some game files, most common while trying to save the game.

Call Stacks: `0xFFFFF0024A48D48`

Solution: Add **Fallout4.exe**, **f4se_loader.exe** and **ModOrganizer.exe** to your antivirus whitelist / ignore list or disable your antivirus program completely while running the game. Don't worry, all mod files downloaded from Nexus should be safe to use, since [VirusTotal](#) is used to scan all file uploads. It's extremely rare for mods / mod files to be anything other than false positives.

=====

Stack Error ▾ DLL Crash | DLCBannerDLC01.dds

Crash seems to be caused by a sudden data overflow in modded / custom .dll files.

Solution: If the crash occurred while starting the game in MO2, simply restart your PC and this crash should go away. If crashing persists for whatever reason or it happens during gameplay, start disabling any and all mods that have their own custom .dll files (ex. *High Heels System, Place Everywhere, Uneducated Shooter, Unlimited Survival Mode, Classic Holstered Weapons...*)

This crash can also be rarely caused by corrupted Windows files. To fix any issues with your current Windows installation, open Command Prompt in admin mode and run these commands:

sfc /scannow

DISM.exe /Online /Cleanup-Image /Restorehealth

For more details about these commands and extra tips, see [this video](#).

Even more rarely, this crash can be caused by corrupted INI files, so you'll have to reset them.

INI reset is done by deleting all game .ini files inside your Documents\My Games\Fallout4 folder (also delete any similar files generated by other programs in the same folder), then run the game once with Fallout4Launcher.exe up until you reach the Main Menu, then exit the game and readjust your INI settings with BethINI. If this doesn't help, you can restore your original INIs.

=====

Stack Error ▾ Archive Invalidation Crash | DLCBanner05.dds | *This file is mentioned with all DLCs installed. Other dds files may be referenced if you don't own all DLC content.*

Solution: Archive Invalidation isn't enabled. Enable it through BethINI or manually by adding these lines to Fallout4Custom.ini inside your Documents\My Games\Fallout4 folder:

[Archive]

bInvalidateOlderFiles=1

sResourceDataDirsFinal=

Yes, sResourceDataDirsFinal must remain blank.

=====

Stack Error ▾ Particle Effects Crash | ParticleSystem | MasterParticleSystem

Most commonly caused by mods that add large amounts of visual effects, particles or particle effects specifically, for example Extreme Particles Overhaul (3.0) or the Fireflies mod.

Solution: Disable any mods that edit particle effects or increase particle count to prevent such crashes. Mods that add other visual effects may also contain custom ini files that increase the **iMaxDesired** value above the default 750 or to ridiculous values. (EPO increases it to 500 000).

Watch out for these ini files and delete them or set their **iMaxDesired** value to 2500 or less.

=====

Stack Error ▾ **Script Crash** | [Papyrus](#) | [VirtualMachine](#)

Caused by a desync in the scripting virtual machine that can even result in a partially or completely corrupted save file.

Solution: One of the scripted mods that your save depends on is either missing or it corrupted the save file. Manually download the latest version of [ReSaver](#) and extract it somewhere.

Run Resaver.exe and open your latest save with it, then select Clean > **Remove Unattached Instances** and Clean > **Purify FormLists**. If the same crash messages persist, that save is most likely unsalvageable. Try reverting to an older save or simply start a new game. And you should never permanently disable or uninstall scripted mods from existing saves, mid-playthrough.

Sometimes, this crash can be caused by an incorrect F4SE installation or by other mods that unintentionally overwrite F4SE script files (usually by including copies of F4SE scripts with the mod files). Therefore, recheck your F4SE installation and see if any mods overwrite scripts that they shouldn't. You can check this easily with MO2 by enabling Archives Parsing in the settings.

=====

Stack Error ▾ **Equip Crash** | [PipboyMapData](#)

Rare crash caused by specific animation calls for first / third person modes when certain (broken) items are equipped. Other things might be causing this crash, so be aware of false positives.

Solution: If this crash triggers consistently while interacting with any object, jumping or drawing weapons, then it most likely is the equip crash. If that's the case, enter the console command **player.unequipall** which should unequip all items and move them to your inventory.

This will also unequip your Pip-Boy, so enter **player.equiptem 00021b3b** to bring it back.

If crashing stopped, equip the same items. If it crashes again, then one of the equipped items is definitely bugged and figuring out exactly which one shouldn't be hard from this point.

=====

Stack Error ▾ **Plugin Order Crash** | [+0DB9300](#) | [GamebryoSequenceGenerator](#)

Caused by incorrect load order of your plugins (ex. patches loading before mods they patch).

Solution: Check your load order with [Wrye Bash](#). Incorrectly ordered plugins will be mentioned after running the Plugin Checker or when trying to create a Bashed Patch. Now pay attention to the plugin list and see if any plugins show a **red checkbox**, as these plugins have missing requirements and won't be correctly loaded, so you must keep these plugins disabled.

Also look for **orange checkboxes** next to plugins, these aren't ordered correctly. Reorder them until their boxes become green or yellow. Yellow boxes can be safely ignored.

Rarely, this crash message is a false positive, in which case you can temporarily disable any plugins that the Auto-Scanner detected as problematic to see if the crash goes away.

=====

Stack Error ▾ **Grid Scrap Crash** | [GridAdjacencyMapNode](#) | [PowerUtils](#)

Notorious crash that occurs when power grids become corrupted in nearby settlements.

Solution: Make sure you have [Workshop Framework](#) installed, as it has the option to automatically scan and fix corrupted power grids. If Workshop Framework doesn't catch it in time and you get the same crash afterwards, get as close to the settlement or location that triggers the crash, open ingame console with ~ (tilde) and enter this command: **cpq 1**

For players that don't want to use Workshop Framework, use [Power Grid Tools](#) instead.

- Credit to [jorduncue123](#) for this solution: If you still can't get close enough to the settlement before it crashes, enter console commands **tcl** and **player.setav speedmult 10000** and quickly fly into the settlement before the area gets loaded, then use the **cpq 1** command. Afterwards, enter **tcl** command again and **player.setav speedmult 100** to enable collision and reset your speed.

- Grid Scrap Crash is a type of crash triggered by corrupted power grids in settlements. Corruption can occur when you disable or uninstall mods with objects already connected to settlement power grids, or you have a scrap mod that deletes such objects via Papyrus scripts.

=====

Stack Error ▾ **BA2 Limit Crash** | [LooseFileAsyncStream](#)

You went over your BA2 limit, which triggers after reaching a certain number of total BA2 archives loaded by the game. This limit is dynamic and changes based on the number of installed mods.

Solution: You can unpack the smallest (in terms of bytes) Main.ba2 archives from mods with [Cathedral Assets Optimizer](#) or [BSA Browser](#) until crashing stops or you get a different crash message error. This limit might have something to do with the file handle limit, but every attempt to discern a possible pattern or value was met with failure. Let me know if you have a better idea.

To see the correct amount of total BA2 archives you have currently loaded:

MO2 – Simplest way is to navigate to your current MO2 profile folder and open the **archive.txt** file with a text editor that supports showing the number of text lines (ex. Notepad++) This file lists all BA2 archives currently loaded by the game, simply look at how many lines there are.

OR run **Explore Virtual Folder** from the main dropdown menu (next to the Run button), then in the virtual folder window navigate to Tools > Search (or press Ctrl + F to open search). In the search window, both [Search Subfolders](#) and [Case Insensitive](#) must be **checked**. In the Filename line type in [.ba2](#) and press the Search button. Number shown will be your total BA2 archive count.

Vortex – Navigate to your Fallout 4 / Data folder and search for [*.ba2](#) with File Explorer's search bar. Your total ba2 archive count will be the number shown in the bottom left corner.

Note that your BA2 limit can drastically change after unpacking or uninstalling a few mods.

=====

Stack Error ▾ Mesh Crash / NIF Crash | [LooseFileStream](#) | Do not confuse with the error above.
Exact cause is currently unknown, but very likely related to corrupt mesh (.nif) files.

Solution: Disable the plugin(s) responsible for this crash mentioned in the crash log. If it doesn't mention the plugin or the file path where the bad mesh originates from, you'll have to find the mod causing this crash with a binary search. Additionally, see the **Create2DTexture** solution.

=====

Stack Error ▾ MCM Crash | [FaderData](#) | [FaderMenu](#) | [UIMessage](#)
Caused by incorrectly loaded Mod Configuration Menu, or one of other interface mods.

Solution: Reinstall Mod Configuration Menu manually by placing the MCM folder into your Fallout 4 / Data folder. If crashing persists, start disabling mods that edit the Pip-Boy / Inventory / Trading / Workbench interface in any way, for example sorting / tagging mods (VIS-G, FallUI Item Sorter) or mods that modify the interface appearance (the older DefUI or the newer FallUI).

It's also not advised to use both DefUI and FallUI at the same time, use either one or the other.

=====

Stack Error ▾ NPC Pathing Crash (Static) | [PathingCell](#) | [BSPPathBuilder](#) | [PathManagerServer](#)
NPC Pathing Crash (Dynamic) | [NavMesh](#) | [BSNavmeshObstacleData](#) | [DynamicNavmesh](#)
NPCs cannot find a correct path due to conflicting or deleted navmesh/pathing data.

Solution: The log will usually mention the names of plugins that contain pathing data causing the crash under the **STACK** section. Change the load order or disable these plugins. You can also check if any mods contain deleted navmeshes by running the Plugin Checker from [Wrye Bash](#).

For cases where the log doesn't mention anything useful, your best bet is to start disabling mods that add new or change existing locations (new buildings, interiors, etc) until crashing stops. This crash can also rarely be caused by mods that change NPC AI, like Pack Attack or certain stealth mods. If disabling those doesn't help, you'll have to find the culprit through a binary search.

=====

Stack Error ▾ Material Crash / BGSM Crash | [DefaultTexture_Black](#) | [NiAlphaProperty](#)
Caused by older CAO versions or corrupted texture material (.bgsm) files.

Solution: If you used older versions of Cathedral Assets Optimizer to pack your mods into BA2s, you'll have to reinstall these mods as their files are likely and irreversibly corrupted.

Update CAO to **5.3.13+** since this and newer versions are actually safe to use. Do **NOT** use CAO versions 6.0.X, these aren't compatible with Fallout 4. Otherwise, you'll have to perform a binary search to determine which mod caused the crash, as the given crash log is otherwise useless.

=====

Stack Error ▾ Plugin Limit Crash | [BSMemStorage](#) | [DataFileHandleReaderWriter](#)

You went over the plugin limit, having more than 254 total active ESM and ESP plugins combined.

Solution: Reduce your ESM/ESP plugin count below 254. I recommend that you run [this script](#) in FO4Edit which will flag some plugins as ESL, since plugins with .esl extension or ESL flag count towards a separate limit of 4096 plugins which you'll never have to practically worry about.

If you're unable to fall below the 254 limit with the script, you'll have to either disable some mods or merge them by using zMerge. My OGC 2 guide provides the necessary instructions for that. Older Bethesda games do not support ESL plugins and therefore their ESM/ESP limit is 255.

=====

Stack Error ▾ Console Command Crash | [SysWindowCompileAndRun](#) | [BSResourceNiBinaryStream](#) | [ConsoleLogPrinter](#)

Rare crash triggered by improperly scripted console commands.

Solution: If you're using the **sStartingConsoleCommand** in your mods or INI files, make sure to recheck/delete it. This crash could be also caused by modded script files with incorrect console commands or just bad scripting in general. Not much info since these crashes are quite rare.

=====

Stack Error ▾ Animation / Physics Crash | [+1FCC07E](#) | [hkbVariableBindingSet](#) | [hkbHandleControlsModifier](#) | [hkbBehaviorGraph](#) | [BSAnimationGraphManager](#)

Caused by conflicting animations (Lowered Weapons mod) or other injected data from mods with custom dll files such as Extended Weapon Systems, Weapons Framework or Tactical Reload.

Solution: Extended Weapon Systems, Weapons Framework and Tactical Reload are **incompatible** with each other in some aspects and having two or all three installed at the same time greatly increases the chance that your game will crash. **I suggest you USE ONLY ONE OF THEM.**

And make sure you've installed all required patches for the aforementioned mods. Weapons Framework requires additional steps to make it work with other combat mods, while most modded weapons will require patches to prevent Tactical Reload from crashing your game.

If you only have Tactical Reload installed when you get this crash, I highly recommend moving all installed TR weapons and patches to the end of your load order, so they load after all other mods. If nothing helps, you'll have to disable TR, EWS and/or Weapons Framework to prevent crashes. Make sure that your load order is correct with Wrye Bash (and run the Plugin Checker in WB).

Generally, any mod that changes existing weapon animations or adds custom ones, adds cloth physics to outfits, hair, flags or adds animations to objects can trigger this type of crash message, so disable such mods if this crash is still a problem or perform a binary search.

=====

Stack Error ▾ Texture Crash / DDS Crash | [Create2DTexture](#) | [DefaultTexture](#)

Special type of crash that usually gives a warning message. Commonly caused by corrupted textures or incorrectly resized texture files (ex. 1024 x 1260 instead of 1024 x 1024).

Solution: This warning can in rare cases generate a crash log which will usually contain names of any **.dds** or **.BGSM** files (or **.nif** in case of [LooseFileStream](#)) that most likely caused the crash. It might also mention the names of plugins where those bad textures / files originate from.

Try searching for these plugins / files in your installed mods folder and disable any mods that contain them. If crashing persists or such files cannot be found, you'll have to do a binary search.

Another possible method of preventing this crash is to pack as many of your mods into BA2 archives with Cathedral Assets Optimizer. Do not use Archive2 as it can break cubemaps.

If you did not get a crash log, then your only option is to find the culprit through a **Binary Search**.

=====

Stack Error ▾ Vulkan Settings Crash | [dxvk::DxgiAdapter](#) | [dxvk::DxgiFactory](#)

Caused by incorrect Vulkan Renderer installation or settings.

Solution: Recheck your **enblocal.ini** and **dxvk.conf** settings in your Fallout 4 game folder and make sure that you've properly installed all Vulkan Renderer files and correctly renamed the **d3d11.dll** file from Vulkan Renderer so it doesn't conflict / overwrite the same dll from ENB.

=====

Stack Error ▾ Player Character Crash | [0x00000007](#) | [0x00000008](#) | [0x00000014](#)

(Player Character Crash) Very common, some form of player interaction is broken.

This crash can be triggered by anything and everything, including but not limited to: player animations or poses, custom player bodies or skeletons, ingestible and interactable objects, custom weapons or weapon animations, or anything that interacts with the player in any way.

It's next to impossible to determine the exact culprit for the vast majority of these crash logs, read the Autoscan results carefully and install any recommended mods, patches and fixes.

Your best bet in finding the culprit is through a **binary search** (explained at Page 4) Sometimes, this crash can be caused by an incorrect load order, so make sure to use the Plugin Checker tool in Wrye Bash to find and fix any problems. Wrye Bash instructions available in [this article!](#)

DLL Error ▾ **C++ Redist Crash** | [MSVCR110.dll](#) | [MSVCP140.dll](#) [?]

*Note that this crash error has a much higher chance to end up as a false positive.
Can be caused by missing or invalid game dependent libraries.*

Solution: Make sure to download and install both [Microsoft Visual C++ Redistributables AIO](#) package and the [DirectX End-User Runtimes June 2010](#) package. These programs ensure that there are no missing dependencies for all games on your Windows Operating System.

If this crash persists, you can open Windows Powershell or Console (CMD) in Admin Mode and copy-paste each command shown below. Press Enter after each one. After that, restart your PC.

regsvr32 xaudio2_7.dll

sfc /scannow

For the complete list of Buffout 4 dependencies, see the [Buffout 4 Crash Article](#)

=====

DLL Error ▾ **Vulkan Memory Crash** | [KERNELBASE.dll](#) | [MSVCP140.dll](#) | [DxvkSubmissionQueue](#)

Caused by a sudden failure in system (vulkan) memory allocation.

CAUTION: IF YOU USED [CRASH LOG SCANNER GUI VERSION 1.2 / 1.3](#), THIS ERROR IS VERY LIKELY A FALSE POSITIVE. USE THE UPDATED CRASH LOG AUTO-SCANNER FROM [HERE!](#)

Solution: This error should only appear with [Vulkan Renderer](#) installed and on GPUs with less than 4GB VRAM. If you get this crash often, you'll have to reduce memory usage as much as possible. Close unnecessary background programs and services while running the game and pack as many of your mods into BA2 archives, preferably with [Cathedral Assets Optimizer](#)

To further reduce memory usage and increase performance, install [Previs Repair Pack](#) and place its non-esm plugins last / at the bottom of your load order, so they load after all other mods.

This crash is much more common when running the game on 2GB or 3 GB VRAM GPUs or on laptops. Some laptops with APUs allow you to increase the amount of GPU VRAM by utilizing a portion of the laptop's System RAM, though you'll have to find BIOS instructions for this yourself.

=====

Stack Error ▾ **LOD Crash** | [BGSQueuedTerrainInitialLoad](#)

Caused by unpacked or corrupted Level Of Detail (LOD) files.

Solution: If you've already generated new LOD for your load order with FO4LodGen, make sure that these LOD files are packed into BA2 archives with Cathedral Assets Optimizer.

If you still get the same crash with packed LOD files or after removing your generated LOD, you'll have to generate new LOD and pack it again. If crashing persists, one of your installed mods has corrupted LOD files and you'll have to perform a binary search to find that mod.

=====

Stack Error ▾ **Decal Crash** | [BGSDecalManager](#) | [BSTempEffectGeometryDecal](#)

The game is unable to render certain decals (bullet wounds, blood splatter, bullet impacts, etc.) on a certain armor, clothing or outfit piece, or possibly any other broken mesh that was hit or shot at.

Solution: The autoscan log can be very misleading for these crash messages, so try to visually confirm the exact armor, clothing or outfit (or other nearby mesh) that crashes the game when worn by the player or nearby NPCs while being shot at or hit by bullets and other projectiles.

If that's not possible, you'll have to perform a binary search and disable mods with armor, clothing or outfits that could possibly have such a broken mesh, until crashing stops. In some cases, reducing decal quality with BethINI might also help prevent this crash.

=====

Stack Error ▾ **MO2 Extractor Crash** | [BSD3DResourceCreator](#)

Uncommon crash caused by extracting BA2 archives with BSA Extractor in MO2.

Solution: If you recently used MO2 and unpacked BA2 archives with it during mod installation or MO2 itself automatically unpacked your mods, you'll have to disable MO2's Extractor by opening MO2 Settings (Ctrl + S) > Plugins and uncheck the BSA Extractor enabled option.

Now you'll most likely have to reinstall all mods that were unpacked by BSA Extractor. There's currently no other way to fix this, the Extractor very likely corrupted some of them.

If you haven't used MO2 Extractor and you're getting this crash, it's likely that one of your installed mods has corrupted / broken loose files. You'll have to perform a binary search to find the culprit. Also, handle all BA2 packing and extracting with Cathedral Assets Optimizer (CAO) from now on.

=====

Stack Error ▾ **ControlMap Crash** | [nsStartMenu_InputMapping](#) | [RemapHandler](#)

Crash caused by either broken or incorrectly generated ControlMap file.

Solution: Remove [ControlMap_Custom.txt](#) file from your Documents\My Games\Fallout4 folder and check if you get the same crash. If there's no such file there, search your installed mods folder or the Fallout4 / Data folder and remove all existing [ControlMap_Custom.txt](#) files.

The only currently known mod that can sometimes cause this crash is [Toggle Aim](#)

=====

Stack Error ▾ **Map Marker Crash** | [HUDCompass](#) | [HUDCompassMarker](#) | [attachMovie\(\)](#)

Game is unable to correctly render a nearby map marker on your ingame compass.

Solution: Install [Nuka World UI Mod Crash Fix](#) and see if you get the same crash. If the fix doesn't help, disable any mods that add custom or modify existing map markers or similar Pip-Boy mods.

Stack Error ▾ **Game Corruption Crash** | [AnimationFileLookupSingletonHelper](#)

| [AnimTextData\AnimationFileData](#) *Game is unable to load due to corrupted game or mod files.*

Solution: This particular crash seems much more common with Vortex. You'll have to completely disable any and all mods that add or edit game animations, both their plugins and mod files, including custom weapons mods and replacers, then check if you still get the same crash.

If disabling animation mods doesn't help, the only other possible fix right now is to re-verify game files through Steam and re-deploy / re-activate all mods right after, though this might not always work. If the same crash persists even after that, check if you can still run the game with all mods completely disabled and / or consider switching to Mod Organizer 2 (MO2).

The only currently known mod that can cause this crash is [10mm Anims](#)

This crash could be also caused by bad INI configuration files, so reset your INI files.

INI reset is done by deleting all game .ini files inside your Documents\My Games\Fallout4 folder (also delete any similar files generated by other programs in the same folder), then run the game once with Fallout4Launcher.exe up until you reach the Main Menu, then exit the game and readjust your INI settings with BethINI. If this doesn't help, you can restore your original INIs.

=====

Stack Error ▾ **Water Collision Crash** | [BGSWaterCollisionManager](#) | [TESWaterForm](#) [?]

Game is unable to handle water collision with an item / interactable object.

Solution: IF YOU GET THIS CRASH, PLEASE CONTACT ME ASAP. (You need to disable any **PLACED ITEM** records referenced through Form IDs in the crash / autoscan log with FO4Edit.)

=====

UNSOLVED CRASH MESSAGES / ERRORS

CAUTION

These errors / messages and their related explanations / solutions are still not confirmed. They are listed here simply for tracking purposes, possible ideas and future auto-scanner updates.

If **YOU** get any of these messages / errors and want to help us determine their exact cause, please post the following info in the posts section [HERE](#) or in [★-poet-guides-mods](#) channel if you joined the [Collective Modding](#) discord server. Only one place is enough. You also need to:

1. Post the **FULL CRASH LOG** (**NOT the Autoscan Log**, just the actual Buffout 4 crash log).
2. Describe the situation you were in when the crash occurred. When/where does it crash? AND try to be specific! Was it in combat? While opening the Pip-Boy? While entering or exiting a

location? During game startup? While interacting with a workbench? Etc. This will save us from headaches of having to constantly ask so we can easily determine exact problems and causes.

3. If you already did a binary search or disabled a certain mod / plugin or performed specific steps and that stopped the game from crashing, let us know so we can confirm it on our side!

=====

Elusive Error ▾ BGSCombinedCellGeometryDB | BSPackedCombinedGeomDataExtra | BGSSStaticCollection TESObjectCELL (?) *(Precombines Crash)*

Missing, conflicting or corrupted precombine / previs data?
See if you get this crash with OR without [Previs Repair Pack](#)

=====

Elusive Error ▾ Unhandled exception "EXCEPTION_BREAKPOINT"
(Interface / Menu Crash 1) Very rare.

Mods possibly causing this: Immersive HUD / VIS-G Item Sorting

=====

Elusive Error ▾ HUDAmmoCounter | BSScaleformTranslator (?) *(Weapon Crash)*

Possibly related to Better Locational Damage or other specific weapon mods.
Could be also caused by mods that add or edit interface / HUD elements.

Try to determine if you're getting this crash with a specific weapon or while trying to modify one in the workbench. And since this crash can be also caused by incorrect load order or missing masters, check your load order with Wrye Bash or run its Plugin Checker (top bar, under View).

=====

Elusive Error ▾ ShadowSceneNode | myID3D11DeviceContext | BSDeferredDecal | BSDFDecal
(GPU Overclock Crash) | This crash error has a much higher chance to end up as a false positive.

Any of these error messages could possibly indicate that the GPU overclock caused this crash. If you overclocked your GPU through driver settings or MSI Afterburner, disable all overclock profiles and run the game on default GPU settings, then see if you can reproduce the crash.

If you don't have an active overclock running or disabling it doesn't help, check solutions for any other detected crash errors / messages or find the culprit through a binary search.

Always download MSI Afterburner from the [official website!](#) There's been various news and blog posts warning people that some 3rd party websites which provide MSI Afterburner actually contain infected packages with intrusive crypto-miners or are used to steal sensitive data.

=====

Elusive Error ▾ **BGSSaveFormBuffer | BGSSaveLoadManager (?) | BGSSaveLoadThread (?) |**

Call Stacks: +0CDAD30 | +0D09AB7 | +01786FD (Save Crash / Bad INI Crash)

Crash could be caused by too many scripts initializing / starting at the same time. If you get this crash upon starting a new game, disable all mods and only enable everything after leaving Vault 111. Alternatively, you can enable half of all mods now and the other half after leaving the Vault.

If you get this crash only while trying to save in a specific area, open the Crash / Autoscan Log and look up any detected Form IDs with FO4Edit. If these IDs show records of enemy NPCs in a specific in-game location, you'll have to visit that location and clear out / kill all enemies there. After that's done, find a bed and sleep for at least 72 hours to clear out any timed scripts or bugged leveled lists. Save in a safe location, then try saving again where it crashed before.

This crash could be also caused by bad INI configuration files, so reset your INI files.

INI reset is done by deleting all game .ini files inside your Documents\My Games\Fallout4 folder (also delete any similar files generated by other programs in the same folder), then run the game once with Fallout4Launcher.exe up until you reach the Main Menu, then exit the game and readjust your INI settings with BethINI. If this doesn't help, you can restore your original INIs.

If the above circumstances don't apply to you and you're still getting this crash, either try an older save or clean your current save with the latest version of [ReSaver](#). Note that using this tool is considered as last resort at your own risk, explanation on how to use it is given on that same Nexus page. Don't forget to back up your save files before anything goes even more wrong.

=====

Elusive Error ▾ **BGSProcedurePatrol | BGSProcedurePatrolExecState | PatrolActorPackageData** (NPC Patrol Crash)

Almost certainly a pathing issue, but could be due to broken or missing navmeshes, messed up patrol points or NPC AI not working correctly. Disable any mods that modify NPC AI like Pack Attack. See if you can isolate the crash to a single location, disable any mods that might edit it.

=====

Elusive Error ▾ **BGSProjectile | CombatProjectileAimController** (NPC Projectile Crash)

Mainly associated with Deathclaw and Behemoth boulder throws as they have built in auto-aim, though why these projectiles have trouble tracking the player and trigger this crash is unknown. The only currently known mod that can cause this crash is [Respawnable Legendary Bosses](#)

=====

Elusive Error ▾ +0B2C44B | BGSMoD::Attachment | BGSMoD::Template | BGSMoD::Template::Item | TESObjectARMO | TESObjectWEAP | (Weapon Crash / Item Crash)

Likely caused by conflicting item records or bad item data, exact logic behind it is currently unknown. Crash log should always mention the plugin(s) responsible for this crash.

Some crash logs might mention the exact item or weapon / weapon attachment that caused this crash, so pay attention to any detected named records or detected plugins that add such items.

=====

Elusive Error ▾ ButtonEvent | MenuControls | MenuOpenCloseHandler | PlayerControls | DXGI SwapChain (?) (Input Crash)

Either DefUI / FallUI related or conflicting hotkeys in some way, needs more info. The only currently known mod that can cause this crash is [Workshop Rearranged](#)

=====

Elusive Error ▾ +01B59A4 (Creation Club Crash)

Seems to be caused by corrupted or outdated Creation Club mods. Only fix is to disable any specific CC plugins referenced in the crash log or all CC plugins if the log doesn't mention any, then confirm that crashing stopped. Find the exact culprit through a Binary Search if necessary.

If you don't have any Creation Club content installed, other mods that are known to sometimes trigger this crash error are: [Knockout Framework](#) and/or [Point Lookout](#).