Modding the game creates new glitches and challenges which I try to keep a track of and regularly update them. All discovered glitches and challenges are explained at the bottom of this document. I strongly suggest having two copies of the game, one original unmodified and second copy – modded. When you run into a glitch and challenges which prevent you from moving forward through the story or completing any side mission/quest just load up the original game and finish the mission/quest, save the game, and boot up the modded game. All saved files from both copies use the directory/files. Please read through the whole list as I try to explain everything in this list.

1. High Priority in CPU - DISK - RAM Processes (Reduces Stuttering Freezing Lagging in GAMES)
   https://www.nexusmods.com/site/mods/1088
2. Improve Performance - Make a desktop shortcut of Launcher.exe.
   a. Steam Version - You add commands to Steam's Launch Options, not to the game .exe. How to do it:
      i. Open Steam.
      ii. Go to Library, right-click Red Dead Redemption 2, and select Properties.
      iii. In the General tab, look for Launch Options.
      iv. Enter your commands
      v. Close the properties window and launch the game normally. Steam will pass these commands through to the Rockstar Launcher, which in turn launches RDR2.exe with the arguments.
   b. Rockstar Games Launcher Version - You add commands in the Launcher's settings, not to the .exe. How to do it:
      i. Open Rockstar Games Launcher.
      ii. Click your profile icon (top right) → Settings.
      iii. Scroll down to My Installed Games and click Red Dead Redemption 2.
      iv. Scroll to Launch arguments and type commands
      v. Click Save. This method is the cleanest way for Rockstar's standalone version.
   c. Epic Games Version - You add commands to the game's "Additional Command Line Arguments" inside Epic Launcher. How to do it:
      i. Open Epic Games Launcher.
      ii. Click on your profile icon → Settings.
      iii. Scroll down to Red Dead Redemption 2.
      iv. Check "Additional Command Line Arguments".
      v. Enter commands

Commands to add (make sure there are spaces between each command) (under cpuCount put your CPU core Number, same thing for maxThreads) (This manipulation gives extra 10FPS and fixes unexpected crashes):

-High
-cpuCount=8
-maxThreads=16
-useallavailablecores
-cpuLoadRebalancing
-malloc=system
-ignoreDifferentVideoCard
-ignorepipelinecache
-fullscreen

3. Script Hook V2
   https://www.nexusmods.com/reddeadredemption2/mods/1472
4. ASI Mod Loader (Copy and paste 'dinput8.dll' file from ScriptHook V2 download into games root folder)
5. Lenny's Mod Loader
   https://www.rdr2mods.com/downloads/rdr2/tools/76-lennys-mod-loader-rdr/
6. Reshade 6.51
   https://reshade.me/#download
7. RDR2 2025 Enhanced Edition (Just check "Performance" box once installed)
   https://www.nexusmods.com/reddeadredemption2/mods/5549
8. Snappy UI
   https://www.nexusmods.com/reddeadredemption2/mods/971
9. Remove Online-Social Club

10. Remove Black Bars

11. VESTIGIA 2.0 - A Visual Mod (Install graphical issues fixes + Tree x10 LOD from 'Merges' folder, provided below. Install 'visualsettings.dat' from the 'Merges' folder to integrate with Best TAA mod, provided below. If you prefer darker nights, links for merged files provided below. Dark nights merge more suitable for not so bright monitors/screens. Very Dark merge is more suitable for monitors/screens with peak brightness 800+. Install despaireternal's stylized (optimized for FSR) from 'Variants>Rain Particles' folder if using FSR)

Graphical issues fixes + Tree x10 LOD merge:

VESTIGIA x Best TAA and Visual Effects merge:

VESTIGIA x Best TAA and Visual Effects + Dark Nights merge:

VESTIGIA x Best TAA and Visual Effects + Very Dark Nights merge:

12. Best TAA and Visual Effects ('visualsettings.dat' needs to be deleted, 'terraintessellation.xml' needs to be deleted. Merged files provided under Vestigia of this list)

13. WOW... That's Beautiful

14. Increased Geometry Level of Detail (Install lodscale 1.75-2.0. Delete 'fallensnow.xml' as Vestigia has the exact same file. Note, anytime you install or uninstall this mod it resets in-game graphic settings. Every time you manipulate this mod go into the graphic settings and move the slider of Geometry Level of Details all the way to the right. It is the 7th setting from the bottom)

15. Xtreme Grass (Dips fps below 30 in certain places, like Heartland Overflow, when using along with Increased Geometry Level of Detail 1.75-2.0 mod at 4k ultra)

16. Terrain Textures Overhaul (In the comment section of the mod's webpage you can find a link to his Beta version, which has better textures but also more demanding on GPU)

17. Gun Metal Rework

18. Higher Resolution Vegetation + Beta Douglas Fir + Dense Tall Trees + Beta Swamp Trees (files from the 3 mods need to be copied and replace files in Higher Resolution Vegetation mod)

19. Big Valley - Reforestation Project

20. R.W.A.O. (Realistic Weapon Audio Overhaul)

21. Realistic Cartridges (This mod originally is in an uncompressed state. Compressed mod provided below)

22. Corn Sack Fix

23. Micah's Hair Fix (Do not install Arthur's Eyebrows Fix, as this fix already implemented in Character Textures Overhaul)

24. Vomit Fix

25. Wickiup POI - Working Minimap Drawing

https://www.nexusmods.com/reddeadredemption2/mods/2953

26. Wrong Angus Bull Fix

https://www.nexusmods.com/reddeadredemption2/mods/4485

27. Serving Spoon Fix

https://www.nexusmods.com/reddeadredemption2/mods/2206

28. Timer 'Message' Bug Fix

https://www.nexusmods.com/reddeadredemption2/mods/1197

29. Jailbreak Ped Fix

https://www.nexusmods.com/reddeadredemption2/mods/4767

30. Hovering gun fix

https://www.nexusmods.com/reddeadredemption2/mods/5018

31. Horse Eye Draw Distance Fix

https://www.nexusmods.com/reddeadredemption2/mods/5607

32. Floating Horseshoe Fix and Placeholder Poster Fix

https://www.nexusmods.com/reddeadredemption2/mods/4688

33. Duplicate Valentine Doctor Bug Fix

https://www.nexusmods.com/reddeadredemption2/mods/4173

34. Compson's Pistol

https://www.nexusmods.com/reddeadredemption2/mods/3841

35. Chapter 6 Police Uniform Fix

https://www.nexusmods.com/reddeadredemption2/mods/3568

36. Blackwater Worker Fix and Bonus Fixes

https://www.nexusmods.com/reddeadredemption2/mods/4563

37. Blackwater Police Officers Voice Lines Fix

https://www.nexusmods.com/reddeadredemption2/mods/2311

38. Prison Guard Uniform Reimagined

https://www.nexusmods.com/reddeadredemption2/mods/4978

39. Saint Denis Power Line Fix

https://www.nexusmods.com/reddeadredemption2/mods/7217

40. Hovering Bandolier Fix

https://www.nexusmods.com/reddeadredemption2/mods/982

41. Holstering Animation Fix

https://www.nexusmods.com/reddeadredemption2/mods/876

42. Bandolier Fix

https://www.nexusmods.com/reddeadredemption2/mods/3551

43. Cherry Blossoms in Saint Denis

https://www.nexusmods.com/reddeadredemption2/mods/7044

44. Ambient Abandoned Wagons

https://www.nexusmods.com/reddeadredemption2/mods/6366

45. Corpse Spawn Distance

https://www.nexusmods.com/reddeadredemption2/mods/1786

46. Penetration

https://www.nexusmods.com/reddeadredemption2/mods/2605

47. Equine Texture Improvements (Horses Texture)

https://www.nexusmods.com/reddeadredemption2/mods/6436

48. Dense Forests of The Grizzlies West - 2.0

https://www.nexusmods.com/reddeadredemption2/mods/6486

49. Animal Fur Fix

https://www.nexusmods.com/reddeadredemption2/mods/5359

50. Character Textures Overhaul

https://www.nexusmods.com/reddeadredemption2/mods/4987

51. Upscaled Weather (This one is part of Upscaled All-In-One MegaPack mod. You need to extract just 'graphics.ytd' file and create 'install.xml' file. Link provided below. Drag and drop into "lml" folder)

https://drive.google.com/drive/folders/1TkUpYZXQRE9f_Q9TpOU4hG7Nw3IW6BJJ?usp=sharing

52. Upscaled Stars

https://www.nexusmods.com/reddeadredemption2/mods/2471

53. Upscaled Shadows

https://www.nexusmods.com/reddeadredemption2/mods/3642?tab=files

54. Upscaled Saddles

https://www.nexusmods.com/reddeadredemption2/mods/3802

55. Upscaled Fires

https://www.nexusmods.com/reddeadredemption2/mods/3756

56. Upscaled HUD

https://www.nexusmods.com/reddeadredemption2/mods/3945

57. Bigger Arabian Horses (There are two versions, one which makes Arabians same size as MTF and the other one size of Turkoman. I prefer Turkoman as it is a little bit bigger than MTF. Choose one for yourself)

https://www.nexusmods.com/reddeadredemption2/mods/5042

58. Improvements In Blood (This mod originally is in improperly compressed state. Re-compressed files were shared with mod author but he did not update the mod as of this writing. Compressed mod provided below. Do not install this author's Upscaled Gore optional mod, it creates spawn issues)

https://drive.google.com/drive/folders/1ZLzl0w2CF11-964HctQFZXBIogBfEm1t?usp=sharing

59. WhyEm's BloodCrave (Only follow next steps if Improvement in Blood mod installed. Delete 'blooddecal' folder and 'vfxbloodinfo.ymt' inside the 'bloodfx' folder. Delete 'bloodHaemorrhage' folder)

https://www.nexusmods.com/reddeadredemption2/mods/1154

60. Particles (Only install if BloodCrave already installed. Install BloodCrave option)

https://www.nexusmods.com/reddeadredemption2/mods/1526

61. WhyEm's DLC (Download and install regular version. Download and replace texture files with provided second link, these are properly compressed textures and do not cause spawn issue. Download and replace 'quickselectitems.ymt' file with provided third link, this is a merged file with The Cowhand Fix mod)

https://www.nexusmods.com/reddeadredemption2/mods/671

https://www.mediafire.com/file/pkg8ohy1hnf6ina/Fixed_WhyEm_Textures.zip/file

https://drive.google.com/file/d/1LZBVMFULeDq5H6P4nVKJfz40XEHN18_7/view?usp=sharing

62. Stutter Fix (Install only if you have stutters as a last resort)

https://www.nexusmods.com/reddeadredemption2/mods/1502

63. Rededrunk's Ultimate Combat Overhaul

https://www.nexusmods.com/reddeadredemption2/mods/5731

64. Rededrunk's Realistic Law Dispatch Response (Delete 'loadouts.meta' as Realistic Loadouts mod has better dynamics, gives NPCs better variety weapons and limits their ammo capacity)

https://www.nexusmods.com/reddeadredemption2/mods/4748

65. Realistic Weapon Rebalance (Delete 'weapons.ymt' as Rededrunk Ultimate Combat mod has better dynamics)

https://www.nexusmods.com/reddeadredemption2/mods/1156

66. Realistic Loadouts (Delete 'dispatch.meta' and 'combatbehaviour.meta' as Rededrunk Law Dispatch mod has better dynamics)

https://www.nexusmods.com/reddeadredemption2/mods/1371

67. Realistic Hunting Rebalance

https://www.nexusmods.com/reddeadredemption2/mods/1559

68. Kiddo's Extra Hardcore Minimalist Loot Economy (Download any of the 3 versions, according to your taste) (Delete 'damagecleanlinessdata.meta' and 'loot_items_matrix.meta' as Hunting Rebalance mod has better dynamics, it gives more meat per kill and more perfect skins)

https://www.nexusmods.com/reddeadredemption2/mods/5535

69. Herbalist

https://www.nexusmods.com/reddeadredemption2/mods/1457

70. No more grindy challenges

https://www.nexusmods.com/reddeadredemption2/mods/832

71. Horse Holster

https://www.nexusmods.com/reddeadredemption2/mods/377

72. Cut Dialogue Enhanced

https://www.nexusmods.com/reddeadredemption2/mods/3053

73. Restored Cut Content - Quiver

https://www.nexusmods.com/reddeadredemption2/mods/328

74. Stash That Lantern 2.8

    https://www.nexusmods.com/reddeadredemption2/mods/333

75. No Out of Bounds Snipers

    https://www.nexusmods.com/reddeadredemption2/mods/4445

76. Automatic Greet Replies 1.1

    https://www.nexusmods.com/reddeadredemption2/mods/452

77. Enhanced Entity and World Persistence Reloaded 1.1

    https://www.nexusmods.com/reddeadredemption2/mods/5864

78. Irregular Lawmen Fix

    https://www.nexusmods.com/reddeadredemption2/mods/468

79. No Honor Loss when Masked

    https://www.nexusmods.com/reddeadredemption2/mods/2122

80. Rededrunk's Ambient World

    https://www.nexusmods.com/reddeadredemption2/mods/5968

81. Less Money - Economy Reworked (Choose either Hardcore or Lite version)

    https://www.nexusmods.com/reddeadredemption2/mods/1256

82. Humidity And Temperature Overhaul Final Cut

    https://www.nexusmods.com/reddeadredemption2/mods/283

83. More Persistent Weather

    https://www.nexusmods.com/reddeadredemption2/mods/810

84. Hunting Grounds

    https://www.nexusmods.com/reddeadredemption2/mods/1761

85. Injuries Overhaul

    https://www.nexusmods.com/reddeadredemption2/mods/422

86. Custom Aiming Camera Distance

    https://www.nexusmods.com/reddeadredemption2/mods/835

87. Dynamic Seasons

    https://www.nexusmods.com/reddeadredemption2/mods/1557

88. Graphics.ytd Crash Fix (Needed for Autumn Vegetation 2.0 Mod)

    https://www.nexusmods.com/reddeadredemption2/mods/5250

89. Autumn Vegetation 2.0 - Singleplayer Fall Experience

    https://www.nexusmods.com/reddeadredemption2/mods/6631

90. Snow - The Definitive Singleplayer Snow Mod

    https://www.nexusmods.com/reddeadredemption2/mods/5281

91. Basic Needs Final Cut

    https://www.nexusmods.com/reddeadredemption2/mods/322

92. Horse's Needs

    https://www.nexusmods.com/reddeadredemption2/mods/389

93. Ped Damage Overhaul Reloaded (Download Compatibility Patches)

    https://www.nexusmods.com/reddeadredemption2/mods/6635

94. Non-Sticky Hats

    https://www.nexusmods.com/reddeadredemption2/mods/263

95. Rededrunk's Hunted

    https://www.nexusmods.com/reddeadredemption2/mods/6258

96. Hardcore Stamina

    https://www.nexusmods.com/reddeadredemption2/mods/2925

97. Early Game Fishing 1.0

    https://www.nexusmods.com/reddeadredemption2/mods/355

98. Rededrunk's Factions

    https://www.nexusmods.com/reddeadredemption2/mods/7350

Optional Mod:

- Bandit Hideouts (Every other .asi file needs to be loaded into scripthook first by renaming it to include '1' in front) (Great mod, but very hard to make it work all the time with other mods, it also conflicts with few other mods and breaks them) (No longer recommended as Rededrunk's Factions does similar thing)

Said list was tested with 9800x3d, 9070xt, 32GB RAM, and Samsung S90F 42" OLED TV. CPU and GPU both overclocked to its max. 9800x3d @5350, 9070Xt @3100 and Vram @2700. The in-game graphics had to be lowered to achieve 40-60 FPS average at Native 4k resolution. If using 9070XT GPU or similar performance GPU use these graphic settings to maintain 40-60 FPS:

Graphic settings:
Graphic API - Vulcan
Everything on max
FSR 2 on Quality if AMD GPU (TAA on High if Nvidia GPU)
Grass Shadows on Medium
Water Physics Quality 3/4
Parallax Occlusion Mapping Quality on High
Tree Tessellation – Off

Reshade – Depending on your monitor, TV, and personal preferences, the suggested Reshade might look a bit off. Feel free to use any other Reshade that looks best to you.

Fix low terrain surface draw distance: Open Documents\Rockstar Games\Red Dead Redemption 2\Settings\system.xml and change the value of deepsurfaceQuality to kSettingLevel_Ultra.

Fix asset pop-in: Open Documents\Rockstar Games\Red Dead Redemption 2\Settings\system.xml and change the value of VehicleLodBias to 2.000000

After you done with HDR setting (below in this guide), save the 'system.xml' file and make it "Read Only" by clicking right mouse click on the file and select checkmark under "Attributes" of "General" Tab. That way no changes will be made to the graphic settings by the game.

If you're using a 7900 XTX, you can typically run the Xtreme Grass + 2× LOD version of the Xtreme Grass mod with all graphics settings on max using FSR 2.

If you're using a 4090, you can usually max out all graphics settings with TAA set to High.

If you're using a 5090, you should be able to use the Xtreme Grass + 2× LOD version and all settings on max with TAA on High as well.

If you notice blur, it's caused by FSR 2 or DLSS. In that case, disable FSR 2 or DLSS and switch to TAA on High for a sharper image.

The three most demanding mods are:

- RDR2 2025 Enhanced Edition Reshade
- Xtreme Grass
- Increased Geometry Level of Detail

On vanilla 4K Ultra settings with FSR 2, I get around 100 FPS.
- Reshade reduces performance by about 10 FPS.
- Xtreme Grass costs around 15 FPS.
- Increased Geometry LOD costs another 15 FPS.
- Turning off FSR 2 and switching to TAA on High costs an additional 15 FPS.

To maintain a smooth 60 FPS, I need to keep FSR 2 enabled and turn down some graphics settings.
Here's a screenshot showing the FPS drop with only two mods installed: https://imgur.com/a/mnUzzcK

Understanding the Two LOD Mods
There are two separate Level of Detail (LOD) mods, and it's important to distinguish between them because they affect different aspects of the game:

1. Increased Level of Detail (LOD)
   Purpose: Improves image clarity when zooming in through scopes or binoculars.

Drawbacks: This mod often introduces more problems than it solves when used along with other graphical enhancement mods, such as visual artifacts, late textures pop-ins.

Recommendation: Due to these issues, this mod is not recommended when used with other mods.

2. Increased Geometry Level of Detail

Purpose: Controls how much detail is rendered and how far into the distance those details are loaded.

Effect: Significantly reduces late texture pop-ins, improving the sense of depth and world consistency.

Recommendation: This mod is generally safe and effective, especially when configured carefully.

Example of why I Don't Recommend the Increased LOD Mod

In the example below, I tested the game with only two mods enabled:

- Increased Level of Detail (LOD) – Extreme version
- Increased Geometry Level of Detail – scalelod 0.75–2.0 version

https://youtu.be/F1kRuuhsLuA?si=uImUFkS9To896WXX

Even with these settings, distant mountains load in late, breaking immersion. This issue stems primarily from the Increased Level of Detail (LOD) mod, which tends to cause instability rather than improve the overall experience. For best results, I recommend using only the Increased Geometry Level of Detail mod, and avoiding the Increased Level of Detail (LOD) mod entirely. While the Increased Geometry Level of Detail mod greatly improves distant rendering and reduces texture pop-ins, it is very demanding on performance, especially when combined with the Xtreme Grass mod. Running both simultaneously can cause a significant FPS drop, so careful tuning or selective compromises may be necessary depending on your hardware.

HDR SETTINGS

Windows 11 has currently a "bug" that applies the wrong gamma curve to HDR (sRGB instead of 2.2), making dark areas too bright. If you own an OLED screen with a peak luminance of 800, download the .icc profile to fix the problem.

https://drive.google.com/drive/folders/1Zjv4XXrGvfORRZyYm1eTNWmC0GvQbu8h?usp=sharing

Activate HGIG or HDR10+ in your monitor settings if you can. HDR is only functional while in Fullscreen mode when using Vulkan.

In-game settings:

HDR Style: Game

Peak Brightness: set to the maximum capability of your screen (in most cases 800 or 1000)

White Paper: choose a value between180 and 250. Check the clouds on the image. White should not cut or crush details of the trees.

If your game stutters at lowest graphic settings and/or crashes constantly try using these steps below:

1. Enable and Configure Virtual Memory (Page File)

   The game's engine still relies on virtual memory, even if you have plenty of RAM and VRAM

   - Make sure Virtual Memory is turned on in Windows and that at least 16 GB of space is allocated.

   - To check this:

      - Open the Start Menu and search for "View advanced system settings."
      - Under the Performance section, click "Settings."
      - Go to the Advanced tab and click "Change" under Virtual Memory.
      - Check the total page file size for all drives or adjust specific drive sizes as needed.

2. Switch to the Performance Power Plan

   - Navigate to: *Control Panel > Hardware and Sound > Power Options*

   - Select "Performance" to ensure your CPU and GPU aren't throttled by power-saving settings.

3. Follow this guide for AMD performance fix guide:

4. In Graphic Setting change "Refresh Rate" setting to 60, 'Screen Type" to Fullscreen, "VSync" to On, "Tripple Buffering" to On. Game's engine was not built to handle refresh rate over 60, the clothing still renders at only 30.

Important:

Always follow each mod author's installation instructions exactly as written, unless this list specifically instructs you to do otherwise. This ensures compatibility and prevents unnecessary errors or conflicts.

Using Bandit Hideouts with Other .asi Mods:

If you want to use the Bandit Hideouts mod alongside other .asi mods, you'll need to rename each .asi file to include a "1" at the beginning of the filename.

Example:

- The Stash That Lantern 2.8 mod includes a file named: *StashThatLantern2.8.asi*
- This file must be placed in the game's root directory.
- If you're also using the Bandit Hideouts mod, rename it to: *1StashThatLantern2.8.asi*
- Renaming the file ensures that the ScriptHook mod loader loads these mods first, since it loads files alphabetically.

Note: If you choose not to install the Bandit Hideouts mod, you can skip the renaming step entirely. The Bandit Hideouts mod is a fantastic addition, but it's also notoriously tricky to get working properly. Because of this, it's placed last on this mod list, and its installation is optional. If you do use it, make sure to follow the renaming instructions carefully. If you don't, simply install your other .asi mods normally.

Infinite Loading Screen Issue

If you encounter an infinite loading screen or a black screen immediately after the loading screen, the issue may be caused by ScriptHookRDR2 V2. To fix this, you'll need to adjust the ScriptHookConfig.ini file as follows:

[Lua]
Load on startup = false

[Interface]
Enable = false

[Overlay]
Enable = false

[General]
Enable Reload Hotkey = true
Show errors = true
Show notifications = true

[Open Key]
Hold Key = 16
Press Key = 45

This configuration disables automatic Lua loading and the interface/overlay features, which often resolves the loading screen hang when using ScriptHookRDR2 V2.

Tip: After making these changes, save the file and restart the game. If the issue persists, double-check for conflicting .asi plugins or outdated mods.

If this fix does not work try deleting Less Money – Economy mod.

Texture Mods and Spawn Issues – Why They Happen

Adding too many texture mods can cause serious spawn issues, which manifest as missing or reduced wildlife, NPCs, and

trains. This happens because the game engine can only render a limited number of textures simultaneously. When too many large textures are loaded, the engine must prioritize which to render first. Here's how the priority hierarchy works (from lowest to highest):

- Small wildlife

- Chickens in specific locations (e.g., Valentine)

- NPCs in carriages/wagons

- Train guards

- NPCs in trains, trams, trolleys

- Trains themselves

"Chicken Test" – Detecting Spawn Issues - https://youtu.be/0a11hlEwX6g?si=1XpKbFNOMf59J3LS

In the vanilla game, when you do the "chicken run" test, you will always find:

- 7–11 chickens in Valentine

- 3–5 NPCs per train wagon and trolley

- As you add more textures, these numbers drop:

- Chickens may drop to 2–4

- Train NPCs may drop to 1–2

Eventually, chickens, NPCs, and trains may stop spawning entirely

If you can't spawn at least 5–8 chickens, you already have a significant spawn issue.

Why Compression Matters (and Why It's Not a Complete Fix)

Textures can be added in two ways:

- Streaming

- Replacement

However, the method used doesn't affect spawn issues. What does matter is whether the textures are uncompressed or improperly compressed. Any mod that includes .ytd files can cause spawn issues, even if the mod seems extremely small. For example, the 4K Arthur's Remastered Hat mod contains only two files and simply improves the texture quality of Arthur's hat. However, because its textures are saved in an uncompressed state, it still causes spawn issues. Poor compression accelerates spawn problems, but even perfectly compressed textures will eventually cause spawn issues once you exceed the engine's limit. There is no true fix for this limitation. Mods like Syyyke's RDR2 Spawns FIX do not actually solve the problem and instead cause other gameplay issues.

Here's a simple explanation of why adjusting individual memory pools brings more issues:

The gameconfig.xml file is responsible for assigning pool memory to different texture categories in the game. It contains 547 separate texture pool entries, each with its own allocated memory size. Some modders try to adjust these pool sizes, but most agree that doing so usually creates new stability problems without truly fixing spawn issues.

The way I understand it, you can imagine the memory system like this:

There is one large jar (the main pool). Its size is permanently fixed by the game's engine.

Inside it are 547 small jars (individual pools), each with a different size. These are the memory pools you can resize using gameconfig.xml file.

Every small jar has a faucet sized according to the jar's capacity.

The large jar also has a faucet sized to match its overall volume.

When the game loads (during the black loading screen), all 547 small jars are filled with "water" (data). When gameplay starts, the engine tells the GPU which data needs to be rendered, and the faucets of the individual jars start releasing water into the

main jar. Because each faucet has a fixed flow rate determined by the engine, different jars push different amounts of data into the main jar at different speeds.

You can change the size of the individual jars (the pool sizes), but it won't fix the problem because the flow rate and main jar size are fixed by the game's engine and can't be altered. When you increase individual jar size it squeezes other jars, so now other jars have less size, creating other issues somewhere else.

Clothing & Weapons Mods

In testing, all clothing and gun addition mods, when combined with other texture mods, led to spawn problems. You'll need to prioritize which mods matter most for your experience. For example, I prioritize open world texture quality over clothing/weapons, so I haven't deeply tested clothing/gun mods in isolation.

- WhyEm's DLC – Known to cause severe spawn issues (including trains disappearing entirely). Tested alone and not recommended. Properly compressed textures provide in this list. With properly compressed textures I still was able to spawn 5 chickens, every train car had 3-5 NPCs, every guard on trains are present, out of 10 trolleys in St. Denis 8 had 3-5 NPCs.

- Compressed Weapon Textures Upscale by WickedHorseman – Properly compressed, but still causes spawn issues when combined with other texture mods. On its own it's fine, but it's excluded from this list for stability.

If you replace or add any texture mods in this list, re-run the chicken test to check for spawn degradation.

How .xml vs .asi Mods Interact

In RDR2 modding, .xml and .asi mods operate at different layers, so their priority depends on what's being changed:

- .xml / .meta mods (e.g., weatherclimates.xml, timecycle_mods_1.xml, weapons.meta)

  - These are data-level overrides, loaded at game startup through LML or similar loaders.
  - They replace the game's original files, and their values are read during engine initialization.

- .asi mods

  - These are runtime script plugins, written in C++, compiled to binary, and loaded via ScriptHookRDR2.
  - They can intercept, override, or ignore .xml data dynamically while the game is running.
  - Generally, if both touch the same parameter, .asi takes priority, because it executes after the data is loaded.
  - Some .asi mods simply extend XML behavior, while others hardcode values each frame, effectively bypassing XML entirely.

Because .asi files are compiled binaries, decompiling them does not give the original C++ source, so it's impossible to determine exactly how they interact with XML unless the mod author shares the source code.

Final Notes

- Spawn issues are engine limitations, not user error.

- Proper compression and careful mod selection delay the problem but cannot eliminate it.

- Test regularly using the "chicken run" method.

- Be mindful that certain popular mods (like WhyEm's DCL) are known culprits and are excluded intentionally.

Here are the 3 videos you need if you want to create spawn free and almost bug free mod list:

1. Spawn issue and testing explained:
   https://youtu.be/0a11hlEwX6g?si=1XpKbFNOMf59J3LS
2. Basic and Advanced modding guide:
   https://youtu.be/1t365rsbnko?si=fa-aY7W71OArLKpA

3. How to compress/recompress .ytd files:

   https://youtu.be/8A2OZr5kB8E?si=5cW3TckJzzINlogc

When testing the mods you always need to check three logs:

1. ModManager.log – tells you if mod's files/assets were loaded into the mod manager. This log only used to track mods which use Lenny's Mod Manager, also known as "lml" mods
2. Vfs.log – tells you if actual assets were loaded into the game
3. ScriptHookRDR2.log – gives information on every .asi mod loaded in to the game

Helpful tools for modding:

1. Modern LML Mod Conflict Checker

   https://www.nexusmods.com/reddeadredemption2/mods/6755
2. Red Dead Modding Tool (RDMT)

   https://www.nexusmods.com/reddeadredemption2/mods/5180

Known Glitches:

Modding the game will inevitably bring some new glitches. Therefore, I have decided to disclose any glitches you might come across with these mods installed. This list will be updated as new glitches discovered.

- If you have cargo on your horse, like carcass and/or pelts, in some instances you might lose them if you decide to camp and sleep, or you save the game and quit or just quit, and if you decide to use train or fast travel. I cannot pinpoint each mod or combinations of mods cause this glitch.
- When you drink water from the canteen and you accidently hit "drink" button twice, instead of throwing away the bottle the mod glitches and the bottle gets stuck on to your hand. To fix it, you will need to save the game and then reload. Mod author was notified to no avail.
- The train which has a guard standing outside last railway wagon will be forced out of the train by some mod. When this happens, the guard will duplicate himself and now two guards will start walking away harmless.
- Some mod or combination of mods introduce a glitch where you lose the ability to place dynamite on the safes. You still be able to blow those saves by throwing the dynamite at it. It does not seem to affect mission critical actions. I have finished the mission in the Chapter 1 where you rob the train. I was able to stick dynamite on the doors of the railway wagon.
- When you try to execute NPC after you tackle him down it won't kill him and instead NPC will get back up and start fighting you

Challenges during gameplay:

Some of the game's core aspects might become more challenging to complete and most likely would have to disable mods to be able to finish them.

- Challenge Horsemen 9 – Due to Horse Needs mod - extremely hard to accomplish. I had to play vanilla even with fully bonded Black Arabian with Panther Saddle.
- Weapons Expert 6 – Due to Rededrunk's Ultimate Combat Overhaul dynamite stick does not kill enemies instantly anymore. Instead, they will succumb to the injuries. Importunely, it does not count towards completion of this challenge. I had to do it in Vanilla game.
- Stranger Mission "The Smell of Grease Paint" – Due to Rededrunk's Ultimate Combat Overhaul melee combat breaks this mission and you cannot subdue the giant. I had to switch to Vanilla to start this mission.