Roblox Exploiting: A How To for Plane Crazy

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Exploiting on Plane Crazy is a lot more unique than exploiting on other games, such as fps shooters, obbies, minigames or others that involve some kind of abusable mechanics. Those games have an obvious way to exploit and for that, they generally have a lot of exploits made for them. With a sandbox game such as Plane Crazy, it is up to the imagination of the exploiter to make exploits. This is because there is no clear mechanics that can be abused and made into exploits.

Anticheat

There are three actions that the current anticheat does. The first one kicks you for placing blocks too fast. If you place more than 20 blocks a second (0.05 seconds in between placing blocks), you get kicked. The safe bet for preventing this anticheat from triggering is having the block placing every 0.1s, but 0.07s can be achieved if you need it. The other anticheat is the one preventing copy-scripts from working. These are exploits that allow people to directly copy 1:1 from other people. The anticheat solves this issue by removing certain information to make it harder for people to develop those exploits. For example, the name, block id and configurations of the blocks placed are removed via localscript. Though, people have found ways to bypass this, because of the code being in a localscript, it can be deleted / disabled and will allow those information to appear. This issue will be fixed in Plane Crazy 2 as it would be a huge hassle for the developers to patch it in the current state of the game. The third thing is to prevent you from flinging people by adding BodyVelocity or BodyGyro to your character. You get kicked if you add them, and they are server sided checks. There is a way of bypassing this, by disabling a certain connection to our Character. If you don’t want to, you can always just teleport or infinite yield ;swim command.

Code Structure in The Game

It is pretty easy to read and understand them. You can find everything on your plot in game.Workspace.BuildingZones which contains a list of plots named numerically. You will need to find yours according to the NameGui via comparing it with localplayer name. When you spawn in, the game will create a new folder called “PlayerAircraft”, where Player is your localplayer name. You can see your own blocks name, block id and configurations while not spawned in, but you can’t see others’. You can see others’ block name, block id and configurations only when they are spawned in or you bypass the anticheat for it. While you are spawned in, all your blocks you can control. For example, you can move your blocks and teleport them around, or use gravity gun and move them around. There are inconsistencies when teleporting them via setting their CFrame / Vector3, like sometimes they do not teleport at all. Though there is a consistent way to teleport blocks owned by you, which is using BodyPosition to keep teleporting them to a location. This ensures that if the block does not teleport, then it will re attempt to teleport it, and it will stay there even if someome tries to move it until you decide to set a new Vector3 for the BodyPosition. You can pair this up with BodyGyro to set the orientation of the block, making it be able to consistently set CFrame. A code example can be found here showcasing the usage of BodyGyro and BodyPosition to construct a snake out of individual blocks. There are also a lot of useful functions in the modules located in ReplicatedStorage. One of them included is a function to convert Vector3 position to plot integer position, for the purpose of being used in place remote.

The Physics Engine

These work client sided when you are in the seat of an aircraft or get near an aircraft. This can be proven by having two aircrafts, one being not laggy and another one being laggy. When you get near the laggy aircraft, you will also start to lag. In turn, when nobody gets near an aircraft, it switches to server sided physics. A server crasher has been made using this information which has been patched so I can tell this. It involves having a stack of locked

motors vertically, an anchor block and the owner of the aircraft to jump from the seat. Due to the nature of how locked motors are, when you activate them, they turn into normal motors and then back into a locked state. By having the motor in a large stack, it makes all the motors fling into very far positions. Before the motor locks, the owner of the aircraft jumps out of the seat, making the motor stack physics transfer to server side. After the motor locks, everything freezes up and will result in the inevitable crash of the server. I don't know how that works after doing it for a repeated amount of time. On roblox, there is also a limit on how many physics action you can do, so sadly you cannot do some complex stuff. It is enough for a smooth R15 character model though. More info can be found at ROBLOX's docs for Physics Engine and PhysicsService.

Exploits in the Remotes

There are numerous amounts of exploits that you can find in the remotes the game uses. Here is a list because you are probably bored of reading endless walls of text.

- Fireworks remote — the remote being used for firing the fireworks block can be spammed repeatedly with no ratelimits
- Explosives remote — you can activate explosives via firing the remotes directly in non-pvp servers when normally you cannot
- MoveAircraft remote — you can use float numbers like 0.99 and it will be moved 0.99, but since the game only takes the integer values, this makes it so you can place blocks in each other. **It is merely an illusion as the blocks are actually not there and it does not save**. Though, you can spawn the creation and it will be in the place it appears. Example code here.
- Configuration remote — you can set config values higher than intended
- PlaceBIockRegion remote — the name is intentionally misspelled as it is in the game in order to temporarily patch certain exploits. This remote is fired

when placing a block. It can be abused by having Vector3 positions in float number and can apply orientation that is usually not possible on a normal client. An example code can be found here showcasing the capabilities.

- Parachute remote — spamming it repeatedly can lag the server a lot. Remote: game.ReplicatedStorage.Remotes.ListHandler:FireServer("Parachute")
- Paint bucket remote — using the material bucket to paint your entire aircraft with just one remote fired is very effective to lag and crash a server if you have a big enough aircraft and spam the remote a lot. An example of the remote can be found here.

Other Exploits

Thrusters speed is calculated client side so is the movement. With this information, you can edit the thruster speed value (IntValue) in percentage and it will directly effect the strength the thruster pushes your aircraft. A showcase code can be found here where it sets every thrusters' speed on your aircraft to a chosen value. The ocean map exploit is another notable exploit that is often shown in pcc. The code below:

```
local region = Region3.new(Vector3.new(-3750,-100,-2050), Vector3.new(2500,43,2700))
region = region:ExpandToGrid(4)
game.Workspace.Terrain:FillRegion(region, 4, Enum.Material.Water)
```

Another notable feature that is hugely wanted by the Plane Crazy Community is a whitelist feature to enable other people to build on your plot. Since the developer isn't planning to add that in the current Plane Crazy game, I decided to make one here. The metatables part are quite difficult to understand because you (mostly) cannot do anything in a metatable. So you end up with janky workarounds.

Additional note

This paper will be updated in the future after exploits are unpatched post Hyperion anticheat.

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