

Documentation

Vehicles Overhauling Script (VO)

Last update: v2.1

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What is this script?

Vehicles Overhauling (VO) is a free Arma 3 script that provides a system of repairing, refueling, and rearming vehicles by proximity and with any asset of your choice. Also, the services are divided by doctrine: Ground, Air, and Nautical.

Each doctrine and even service is easily turned Off or On, according to the editor's needs. If needed, the editor can allow repairing just for ground vehicles while unavailable for air ones, for example. Triggering or code via Eden Editor is needless. VO is configured through only one file, prioritizing implementation simplicity and quick change management that the mission editor might want.

Demo on Youtube: <https://www.youtube.com/watch?v=9wAF2JSfV14>

Can I use it for multiplayer or single-player missions?

Yes, VO was mainly built for multiplayer missions such as PvP, Coop/PvE, TvT.

Can I use it on Hosted and Dedicated servers?

Yes, the script was built for both server types, mainly dedicated ones.

Can I manage the number of resources each station has?

No. For example, if the rearming service is ON for ground vehicles, each ground station where the rearming is possible, that station has infinite ammunition.

Is it compatible with ACE?

Yes, VO detects when the server is running ACE and makes some adjustments automatically.

Important: If you are running ACE associated with another mod like RHS or CUP, it's highly recommended [to turn the ACE Vehicle Damage OFF on the server](#).

Is it compatible with content mods like RHS or CUP?

Yes! all RHS and CUP ammo, repair, and fuel assets already are tracked by VO. You can easily do the same to any mod you want, just including the classname of the assets in [fn_VO_parameters.sqf](#) file.

How to just run the script for a first look?

1. Go to <https://steamcommunity.com/sharedfiles/filedetails/?id=2758919670>
2. Subscribe and wait for Steam to download it;
3. Open Arma 3, go to Multiplayer > Server browser > Host server > click Host Server button;
4. Select “Virtual Reality” map and, after that, select “VEHICLES
OVERHAULING SCRIPT”;
5. Play.

Important: in this way, you cannot read the instructions added through comment pins. To check these comments, you must [inspect the example](#) via Eden Editor.

How to inspect the mission example?

1. Go to <https://github.com/aldolammel/Arma-3-Vehicles-Overhauling-Script>
2. Download the zip and open it;
3. Copy the folder “vehicles-overhauling.VR” into the editable mission folder:
DRIVE:\Users\yourName\Documents\Arma 3\yourProfile\missions\
4. Open Arma 3, and try the example on Eden Editor.

Important: In Eden Editor, after the mission loading, press “E” to show the assets folders and to unlock them when needed.

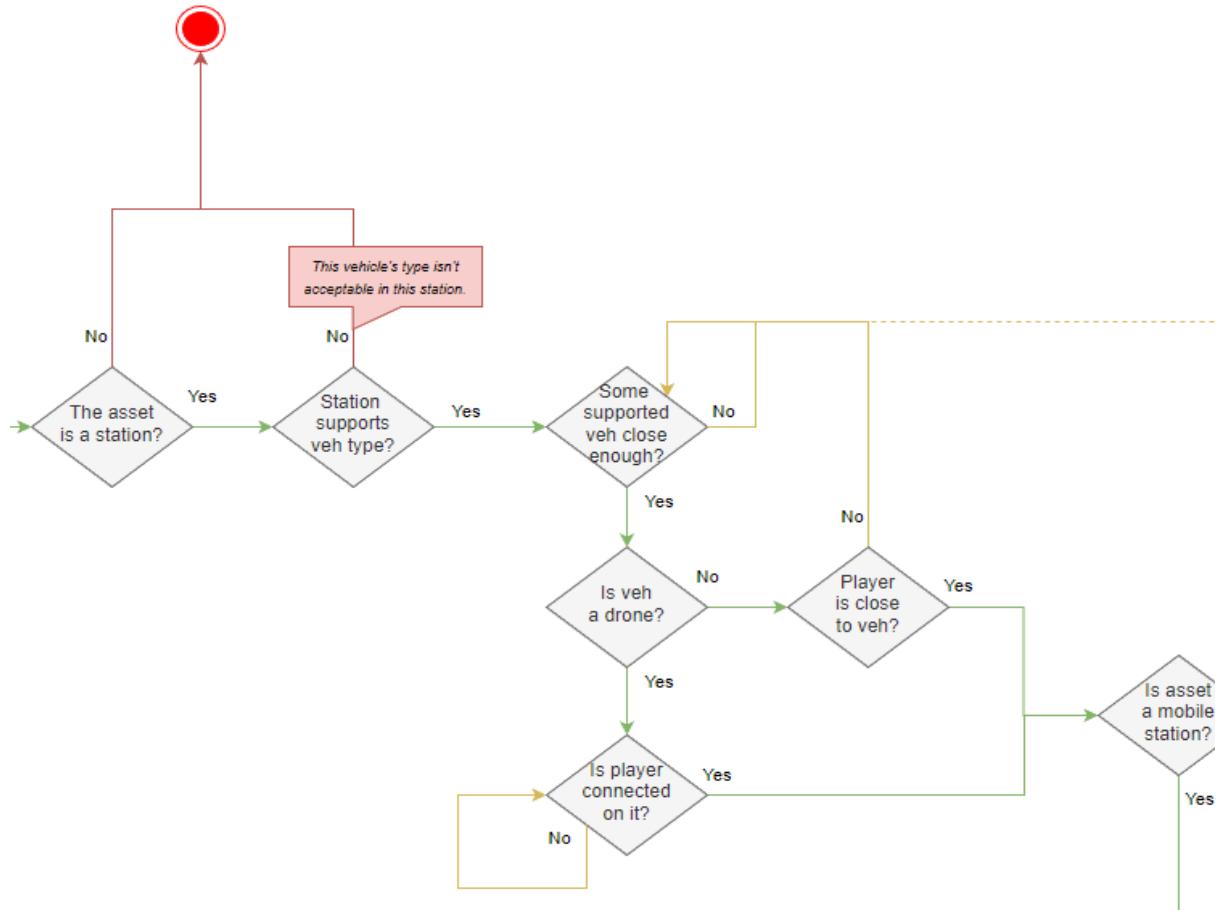
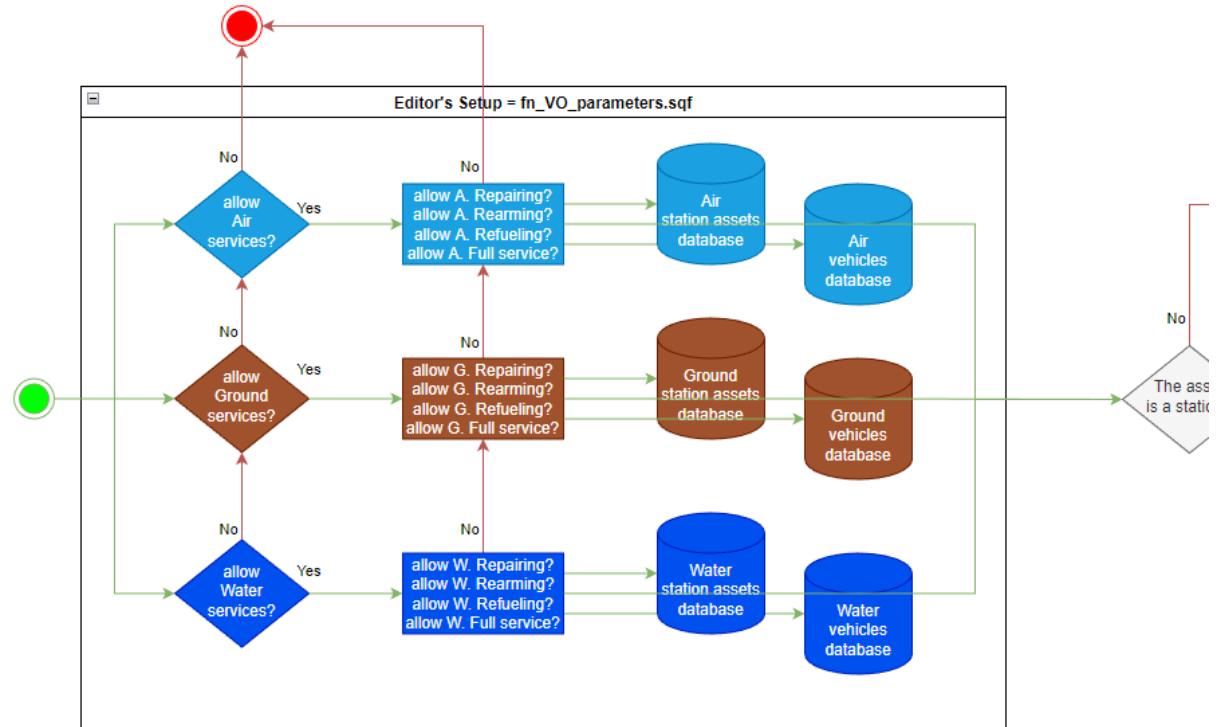
How to install the script in my own mission? ★★★

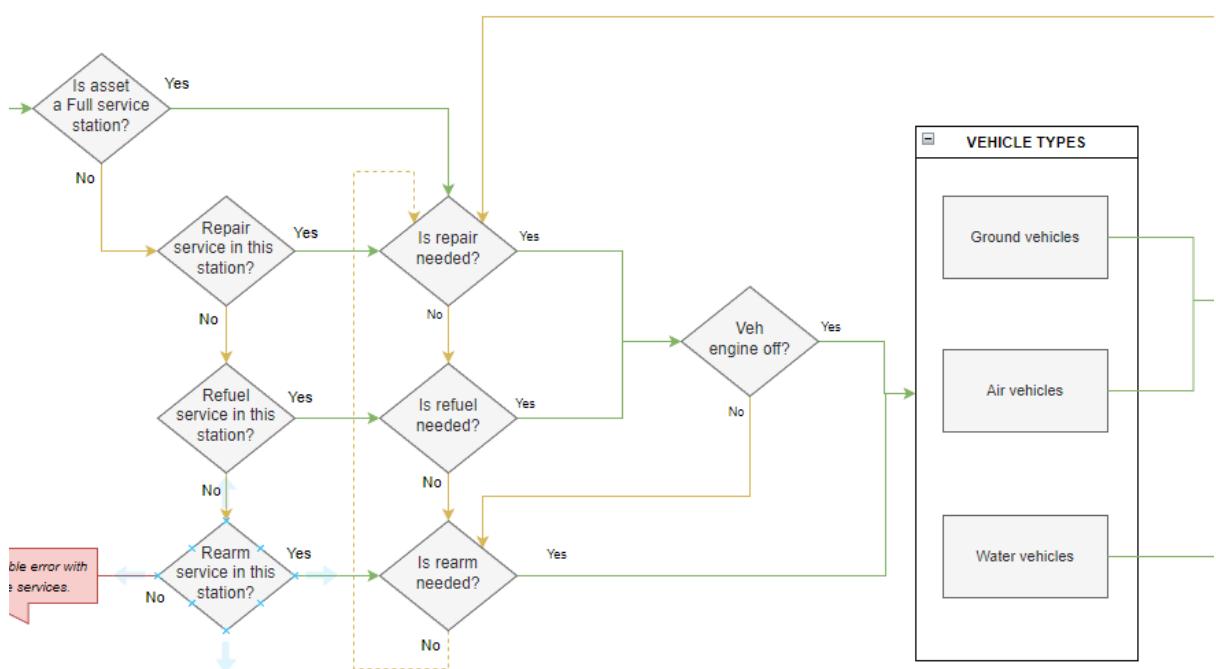
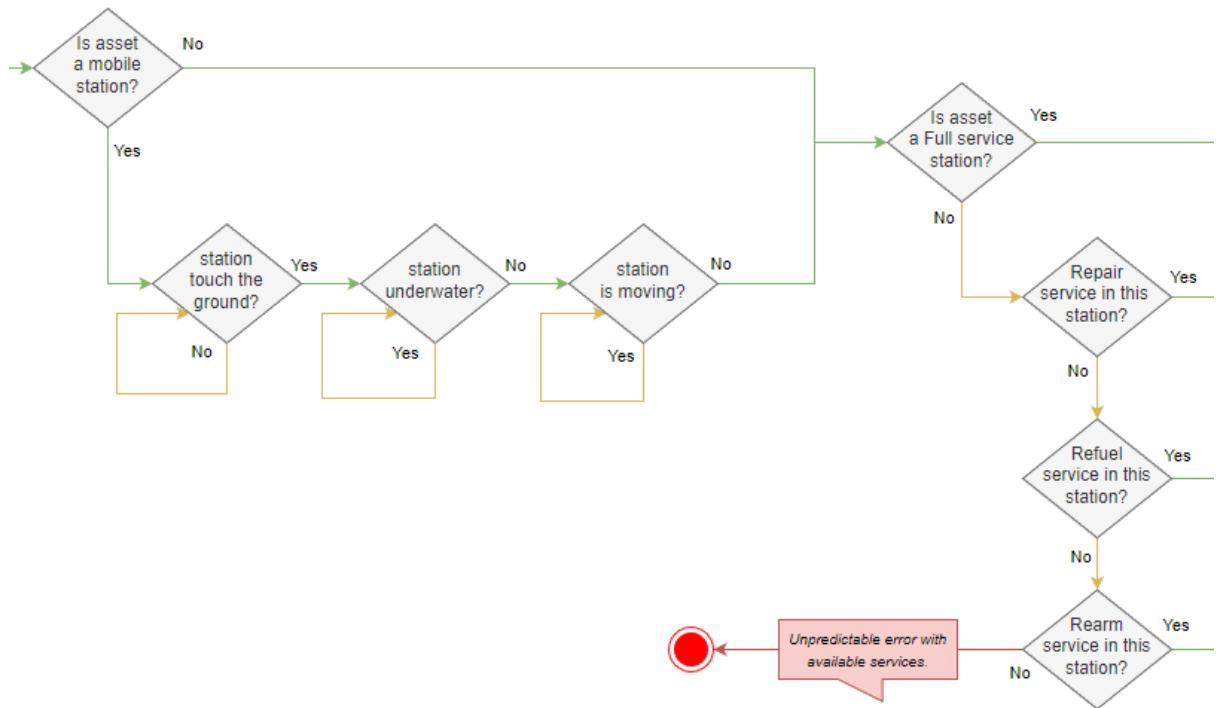
1. Go to <https://github.com/aldolammel/Arma-3-Vehicles-Overhauling-Script>
2. Download the zip and open it;
3. In zip, find the folder “vehiclesOverhauling” and copy it to your mission folder root: <DRIVE:\Users\yourName\Documents\Arma 3\yourProfile\missions\yourMission>
4. In the mission folder root, if you don't have a “description.ext” file, create one and there add the code down below:

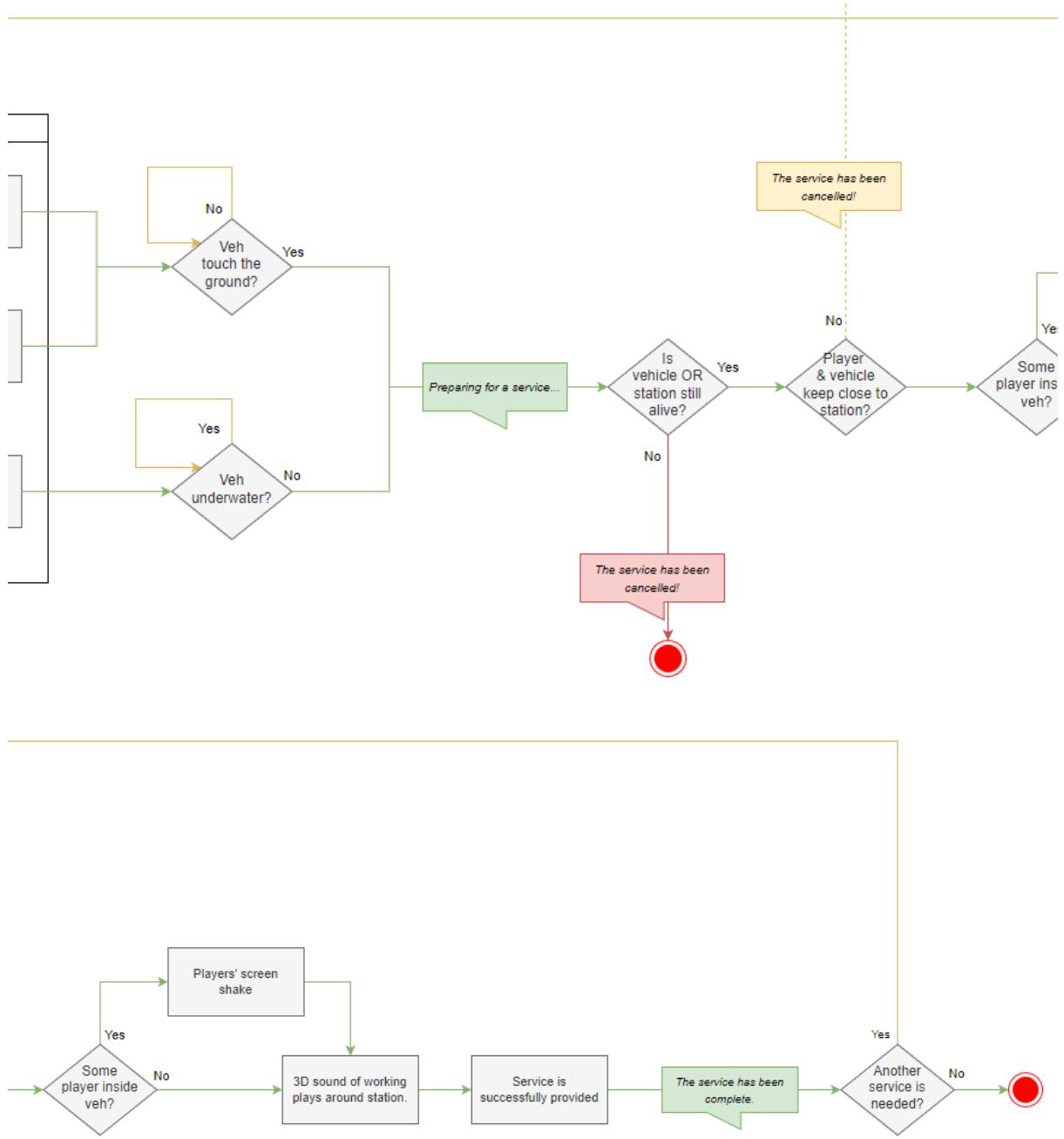
```
class cfgFunctions
{
    // VEHICLES OVERHAULING: REPAIR, REARM, REFUEL
    #include "vehiclesOverhauling\THY_VO_functions.hpp"
};
```

5. Still in your mission folder, open vehiclesOverhauling\fn_VO_parameters.sqf file and perform all customs you need.

VO logical diagram and its game rule







Global rules

Don't matter which doctrine (ground, air, nautical) the vehicle belongs to or which service (repair, refuel, rearm) it needs:

- Every object/asset on Eden can be a service provider (service station);
- The vehicle that needs a service ("target-vehicle" for better understanding here) must be within the station's range of action;

- At least one player must be close (or inside) to the target-vehicle, except drones if the mission-editor authorized through *fn_VO_parameters.sqf*;
- The target-vehicle must not be destroyed;
- To provide the service, the station must not be destroyed or under water or flying (supply containers) or even moving (supply vehicles);
- Each station can provide only the services that it allowed to;
- The service will provide just for one player at a time;
- AI won't be able to replace a human player to start one or more services.

Service > Repairing rules

- Target-vehicle must have some damage;
- Target-vehicle engine must be off.

Service > Refueling rules

- Target-vehicle must have had some fuel consumption;
- Target-vehicle engine must be off.

Service > Rearming rules

- Target-vehicle must have on-board weaponry;
- [NEW] Rearming will be done just for spawned magazines (empties or not) with the target-vehicle, so the Editor should pay attention if they'll set ammo limitation in the vehicle attributes;
- [NEW] Target-vehicle must have spent at least 50% of some magazine to get a full rearming.

Doctrine > Ground rules

- To get a service, target-vehicle must be a land vehicle, including drones and amphibious;
- Target-vehicle must have its speed at zero or very close to it.
- When target-vehicle is amphibious, it can use service-providers from Nautical doctrine;

Doctrine > Air rules

- To get a service, the target-vehicle must be an air vehicle, including drones and amphibious;
- [NEW] Target-vehicle must be touching the ground or the water surface (seaplane/hydroplane/flying boat);
- Target-vehicle must be completely stopped;
- When target-vehicle is amphibious, it can use service-providers from Nautical doctrine;
- If target-vehicle is a plane and the station is prepared for planes, a parking helper will run automatically.
- [NEW] [Aircraft carrier runway is a full station exclusively for planes.](#)

Doctrine > Nautical rules

- To get a service, the target-vehicle must be a nautical vehicle, including drones, and amphibious even when they belong to another doctrine as APC and seaplanes;
- Target-vehicle cannot be submerged, even submarines;
- Target-vehicle must have its speed at zero or very close to it.

How to config the *fn_VO_parameters.sqf*?

fn_VO_parameters.sqf is the only file you need to check if the script will run as you need. There, you can turn ON or OFF each service (rearm, refuel, repair) by doctrine (ground, air, nautical). It means you can allow repairing only for ground vehicles but keep it unavailable for nautical and air vehicles, for example.

Also, you can set if drone vehicles will need a player presence to start a service or if only the terminal connection is enough for.

```
if (!isServer) exitWith {};  
  
// EDITOR'S OPTIONS:  
  
VO_debugMonitor = false;           // true = turn on to test the  
VO_feedbackMsgs = true;            // true = the station shows all  
VO_dronesNeedHuman = false;        // true = player presence  
  
// GROUND SERVICES  
groundVehiclesOverhauling = true;    // true = the mission  
  
VO_grdServRepair = true;           // repair stations  
VO_grdServRefuel = true;           // refuel stations  
VO_grdServRearm = true;            // rearm stations  
VO_grdServFull = true;             // chosen assets will  
VO_grdServiceRange = 20;            // in meters, the area ar  
VO_grdCooldown = 10;                // in seconds, time among ea  
  
// Define which assets (classnames) are ground full (repair)  
VO_grdFullAssets =  
[  
    "Land_RepairDepot_01_green_F",  
    "Land_RepairDepot_01_tan_F"  
    // "Land_RepairDepot_01_civ_F",           // should be a  
    // "Land_Carrier_01_base_F",              // aircraft carrier  
    // from CUP:  
    // "CUP_Type072_Main",                  // navy / doesn't work  
    // "CUP_B_LPD_SAN_ANTONIO_USMC_Empty",   // navy  
    // "CUP_B_LHD_WASP_USMC_Empty",          // navy / does  
    // "CUP_B_LHD_WASP_RUNWAY_USMC_SEA_CONTROL", // navy  
    // "CUP_B_LHD_WASP_RUNWAY_USMC"           // navy / does  
];
```

The file path:

DRIVE:\Users\yourName\Documents\Arma

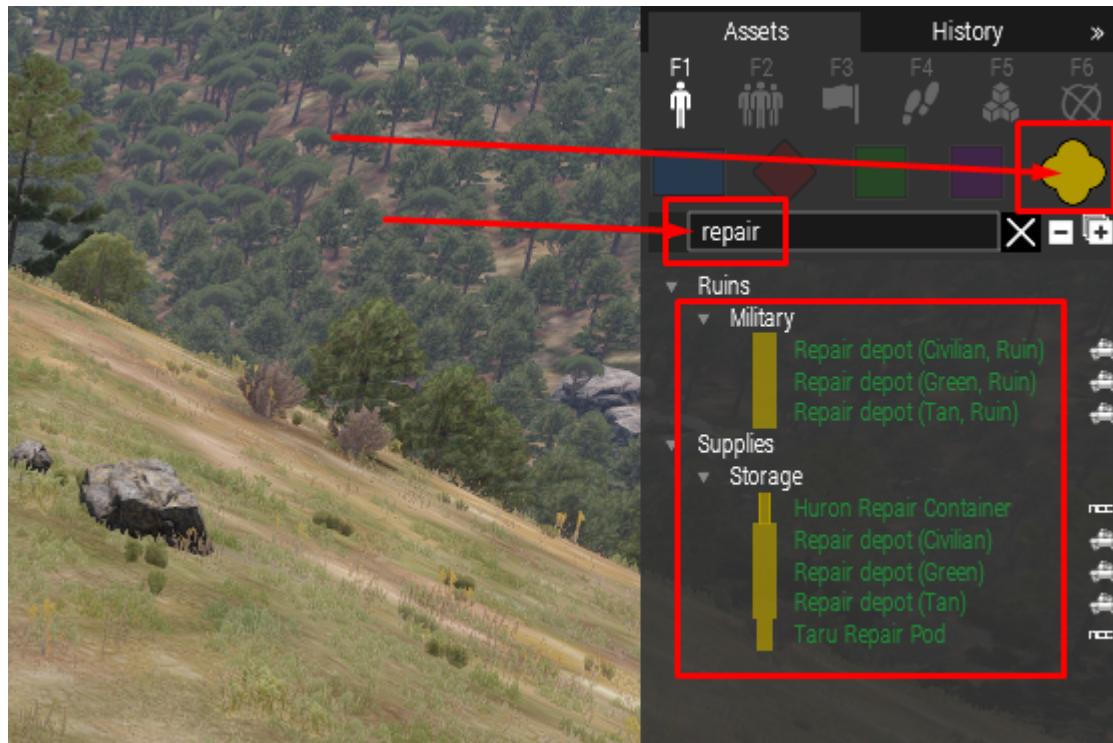
3\yourProfile\missions\missionFolder\vehiclesOverhauling\fn_VO_parameters.sqf

Important: make sure you got in your mission all assets will be used as service stations. I will help you [to add service stations in your mission](#) too.

How to add service stations to my mission?

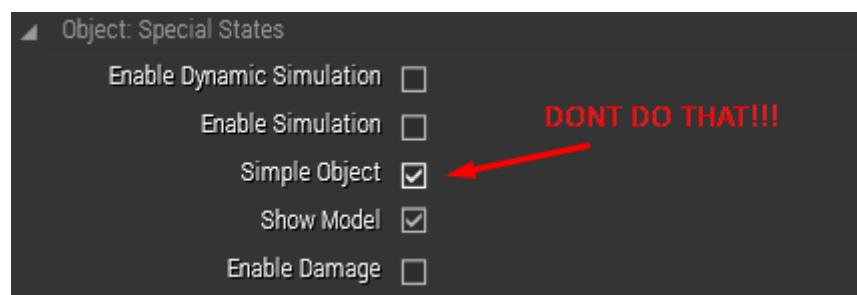
In Eden Editor, open your mission and then, on Assets Menu:

1. Click on Props (yellow icon);
2. Search for “repair” or “fuel” or “ammo”;

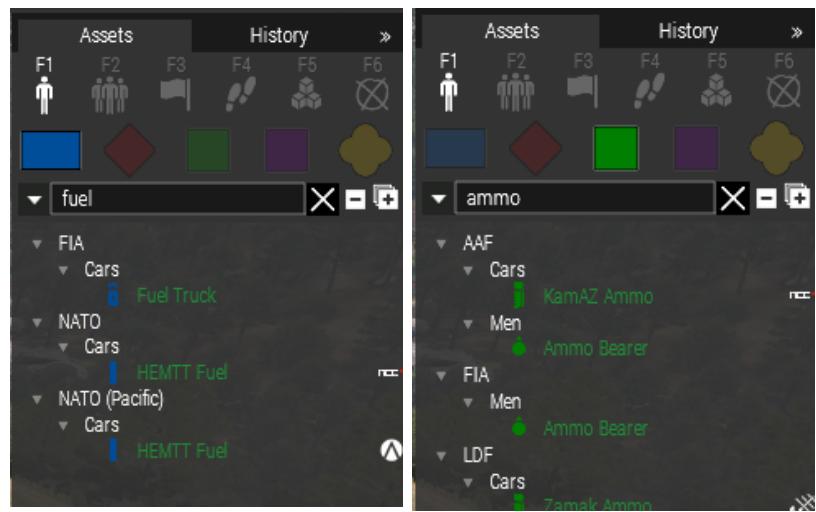


3. Drag and drop the asset “Repair depot” (for example) and done! No code, no trigger is needed.

Critical: NEVER set your station asset as “Simple object” in its properties:



Also, you can find station assets for rearming, refueling, and repairing in other asset categories. Check it out:



Important: don't forget to check if the classname of the asset you choose is already tracked by VO script.

The asset is not working as a station. What should I do?

All Arma 3 vanilla assets that you can consider as repair, refuel or rearm stations are already configured as an available station in VO script, as well as assets from Apex, Contact, Jets, Tanks, Helicopters, Karts, and Western Sahara DLCs, plus mods RHS and CUP.

If you are trying to use an asset from another mod or DLC, [add each asset classname](#) in *fn_VO_parameters.sqf* to the VO track it. In the example next, it's all assets already recognized by VO to be refueling stations for air vehicles:

```
// Define which assets (classnames) are air refuel stations:  
VO_airRefuelAssets =  
[  
    "Land_MobileLandingPlatform_01_F",  
    "C_Van_01_fuel_F",  
    "I_G_Van_01_fuel_F",  
    "O_G_Van_01_fuel_F",  
    "B_G_Van_01_fuel_F",  
    "C_Truck_02_fuel_F",  
    "I_E_Truck_02_fuel_F",  
    "I_Truck_02_fuel_F",  
    "O_T_Truck_02_fuel_F",  
    "O_Truck_02_fuel_F",  
    "O_T_Truck_03_fuel_ghex_F",  
    "O_Truck_03_fuel_F",  
    "B_T_Truck_01_fuel_F",  
    "B_Truck_01_fuel_F",  
    "O_Heli_Transport_04_fuel_F",           // Helicopter Taru + fuel container  
    "Land_FuelStation_02_workshop_F",  
    "Land_Pod_Heli_Transport_04_fuel_F",      // Taru fuel pod  
    "B_Slingload_01_Fuel_F",                 // Huron fuel container  
    // "Land_MetalBarrel_F",                  // too small to refuel many times. N  
    // "FlexibleTank_01_forest_F",            // too small to refuel many times.  
    // "FlexibleTank_01_sand_F",              // too small to refuel many times.  
    // "Land_CanisterFuel_F",                // too small to refuel many times. N  
    // "Land_CanisterFuel_Blue_F",            // too small to refuel many times.  
    // "Land_CanisterFuel_Red_F",             // too small to refuel many times.  
    // "Land_CanisterFuel_White_F",            // too small to refuel many times.  
    "StorageBladder_01_fuel_forest_F",  
    "StorageBladder_01_fuel_sand_F",  
    "CargoNet_01_barrels_F",  
    // from RHS:  
    "RHS_Ural_Fuel_VDV_01",  
    "RHS_Ural_Fuel_MSB_01",  
    "RHS_Ural_Fuel_VV_01",
```

Important: if you add more assets, be careful with the quote and comma logic for each asset classname added. The last one never gets a comma. The order of inclusion doesn't matter.

Where can I find the asset classname?

The asset classname can be found by putting the mouse arrow over the asset on Eden Editor as shown down below:



Sometimes you don't need or don't wanna include more assets in a map where you already got infrastructure that can be considered a station. In this case, you can use a "joker" which means an [invisible asset already tracked by VO script](#). Next, I'll help you to get the idea.

How to make a non-editable building from any map become a station?

VO works automatically after installation in your mission, tracking specific assets dropped by the mission editor. However, sometimes you don't need or don't wanna include too much more assets in a map where you already got infrastructure that can be considered a station. In this case, you wanna set a non-editable assets group as a station and **non-editable assets on the map can't be tracked automatically** by VO.

Here is the solution: let's imagine you wanna transform the whole building below (a non-editable building in Altis) into a refuel station for ground vehicles:



In case, you can use a “joker” asset already tracked by VO script. Give a go:

1. In Eden Editor > Assets menu > Props category > search for “fuel”;
2. Drag and drop an already tracked asset for refueling: *Land_fs_feed_F*;

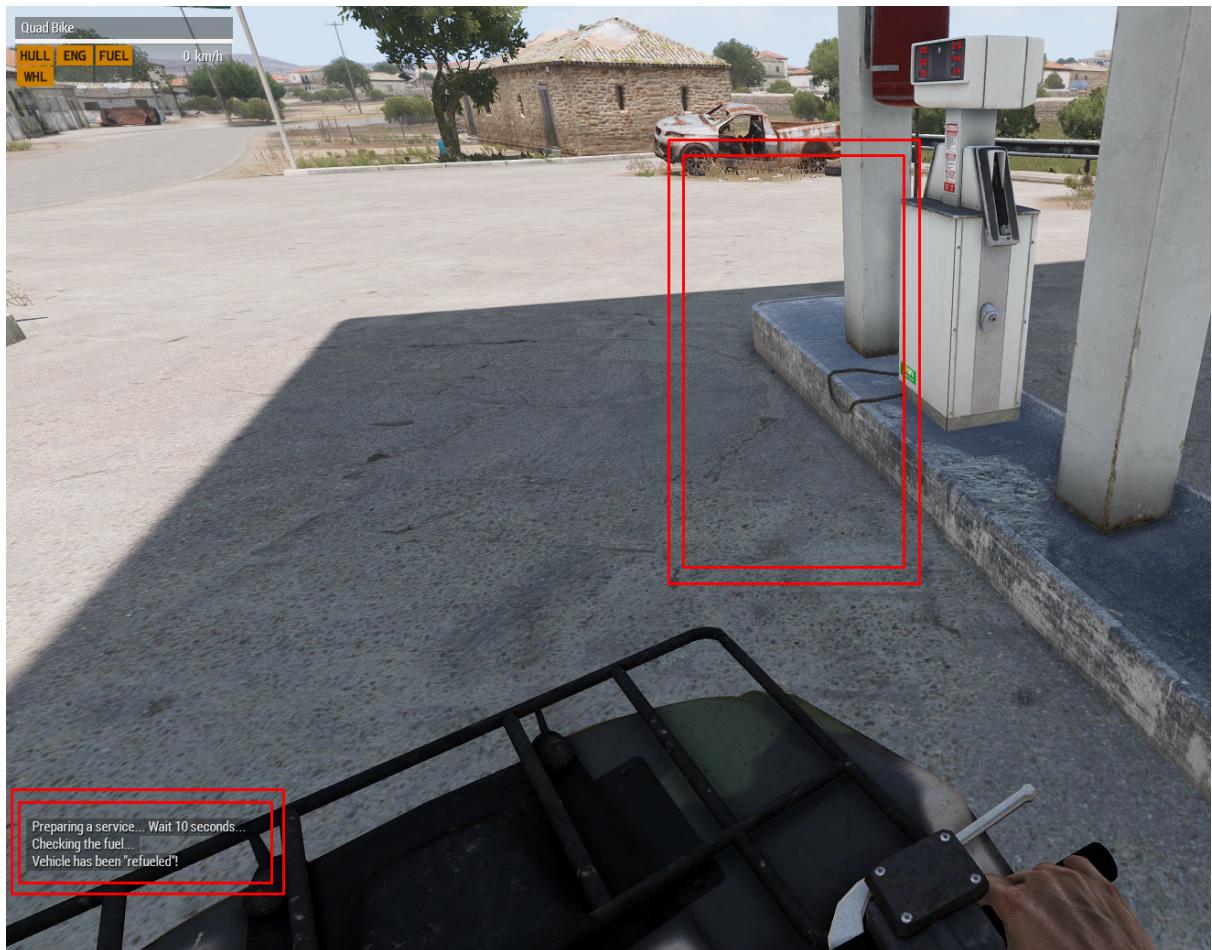


```
// Define which assets (classnames) are ground refuel stations:  
VO_grdRefuelAssets =  
[  
    "Land_fs_feed_F",  
    "Land_fuelstation_Feed_F",  
    "Land_FuelStation_03_pump_F",  
    "Land_FuelStation_02_pump_F",  
    "Land_FuelStation_01_pump_malevil_F",  
    "Land_FuelStation_01_pump_F",  
    "C_Van_01_fuel_F",  
    "I_G_Van_01_fuel_F",  
    "O_G_Van_01_fuel_F",  
    "B_G_Van_01_fuel_F",  
    ...]
```

3. Double-click over the asset and make it invisible;



4. Done! You now got a fully functional proximity refueling station for ground vehicles. Congrats.



Important: if you wanna make an air station specifically for planes based in a non-editable building, [check the Parking Helper matter](#).

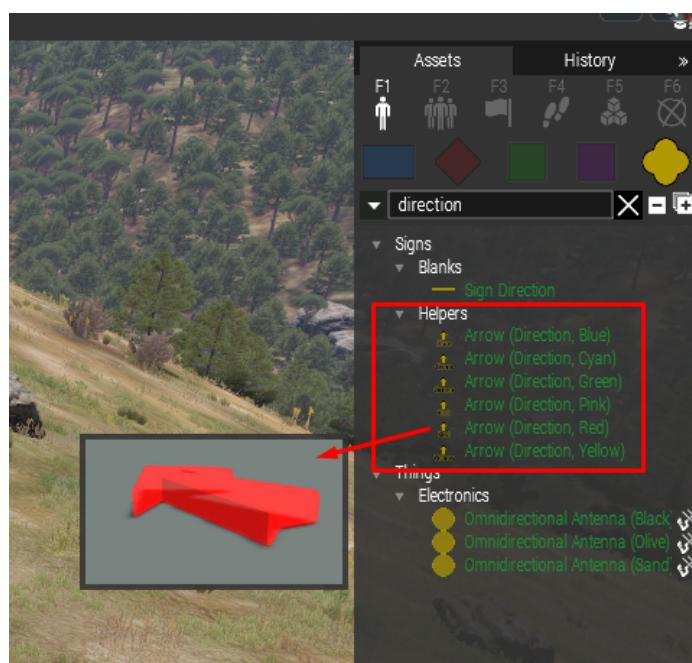
Parking helper for planes

As you know, planes can not reverse themselves and air stations regularly are hangars where it is impossible for a plane to maneuver. Thinking about this issue, by default, all these assets below already park planes automatically after some service. Of course, you can expand the list as you wish through *fn_VO_parameters.sqf* file:

```
// Define which assets (classnames) are allowed to automatically park planes
VO_airParkingHelperAssets =
[
    "Sign_Arrow_Direction_F", // TIP: use this arrow
    "Sign_Arrow_Direction_Blue_F",
    "Sign_Arrow_Direction_Pink_F",
    "Sign_Arrow_Direction_Cyan_F",
    "Sign_Arrow_Direction_Green_F",
    "Sign_Arrow_Direction_Yellow_F",
    "Land_Hangar_F",
    "Land_Airport_01_hangar_F",
    "Land_TentHangar_V1_F"
];
```

If you want to make a non-editable building as an air station:

1. In Eden Editor > Assets Menu > Props category > search for “direction”;



2. Drag and drop one “Arrow Direction” into the non-editable building, always pointing inside the building;



3. To make the Parking Helper invisible during the mission, double-click over it and uncheck “Show model”:

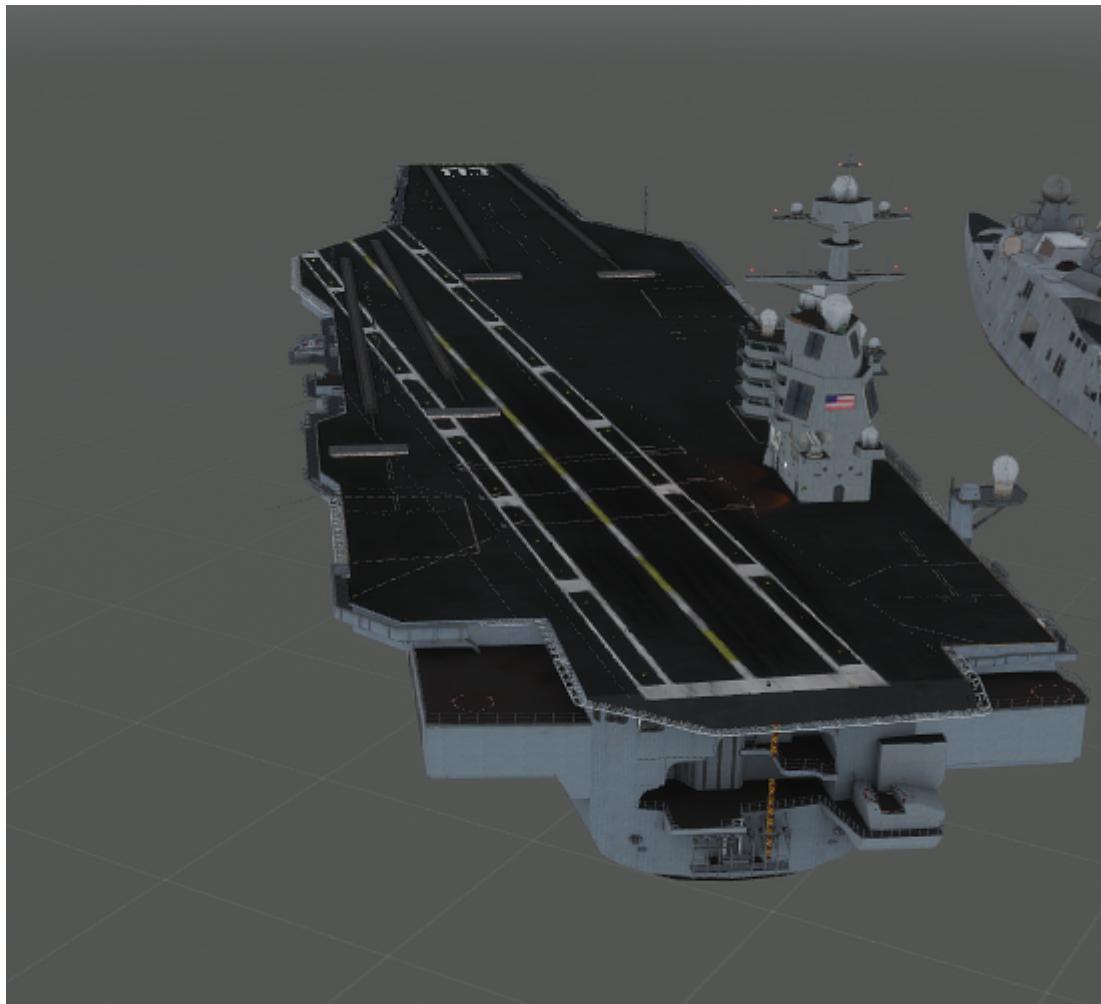


Done! Before/After the plane approach with Parking Helper in-game:



Aircraft Carrier USS Freedom

[NEW] If the Air Doctrine is enabled, the Aircraft Carrier USS Freedom asset can provide all enabled services exclusively for planes. Other air vehicles (like helicopters) will need an asset configured as an air station on the carrier's deck.



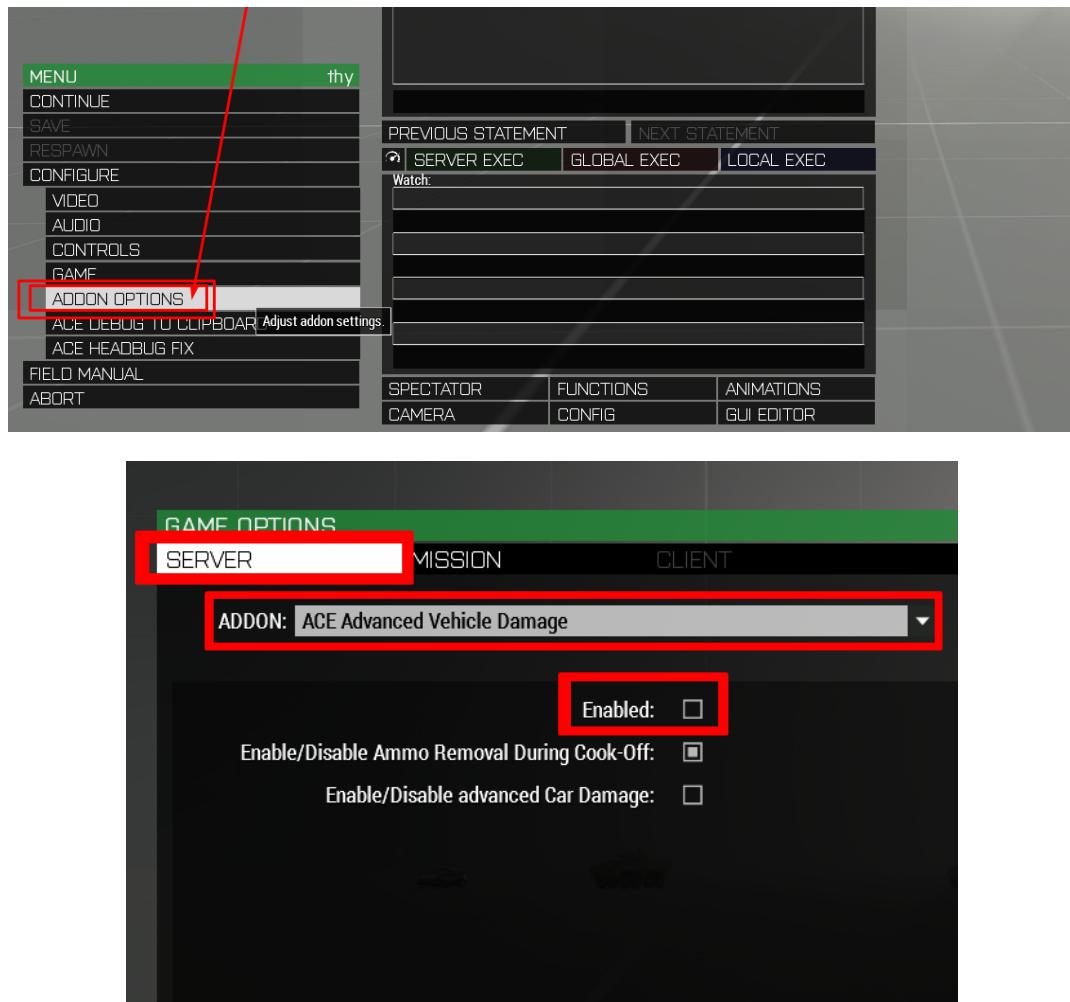
Important: don't forget the carrier has four aircraft launch catapults, so use them to take off from the carrier.

Why should ACE Vehicle Damage be off?

No doubt ACE is an incredible and necessary mod to Arma 3, however, *ACE Advanced Vehicle Damage* feature - when associated with another mod like RHS - the things get weird to calculate and the VO script cannot manage the repairing perfectly yet.

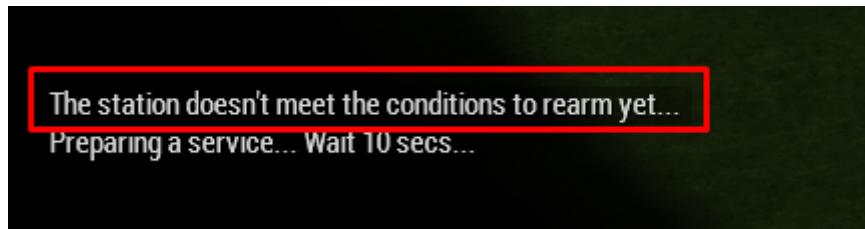
As a recommendation, turning that ACE feature off will bring more benefits to your gameplay than harm, avoiding the inconsistency that feature brings to missions running other mods in parallel.

Turning off the ACE Advanced vehicle damage:



Why “station doesn’t meet the conditions”?

If you are seeing the message *“The station doesn’t meet the conditions to rearm yet...”* always when you approach a station, there are regular reasons for that but also can be a slight mistake by the editor.



Service stations shouldn't work when flying, underwater, in movement, or destroyed. However, also **stations should never be spawned as “simple objects”**, then this is Editor care when they are dropping/creating assets on the map. So make sure your stations are always touching the ground and not marked as “simple object”.

How can I contribute to the VO script?

Discussion on Bohemia Forums

<https://forums.bohemia.net/forums/topic/239319-release-vehicles-overhauling-script/>

Changelog on Github

<https://github.com/aldolammel/Arma-3-Vehicles-Overhauling-Script>

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