

HOW TO CREATE AN OFFLINE ENDURANCE MOD (SORT OF).

I was asked to share this, so here it goes: how I have managed to setup something like an offline endurance mod. Not as cool as a talent file, but enough for some good fun.

The problem: in RF2, there is no way to actually swap with an AI driver. There is the “toggle with AI” option, but the speed of the AI in this case does not follow the speed of the opponents. It apparently always follow the 100% speed AI, so if you are running with 120% opponents, your car will be very slow if use this option.

The solution: modify the carset you are using by creating a special version of your car, just for you to use. In this car, the tyres will be modified to give an advantage for the AI when it is driving this car. This advantage will not affect you, so you will still be competing with other AI just the way you would do with the original car. But your AI will have an advantage that will compensate it's low skill.

It looks complicated... and it is, lol. But it is also rewarding, so let's go. I will try to explain this in a way that even people less experienced with RF2 (just like myself few weeks ago :)) could do it. So, experienced guys, please be patient. RF2 is such a great sim and PCARS 2 is such a disappointment, so there are always newcomers to RF2.....

Steps:

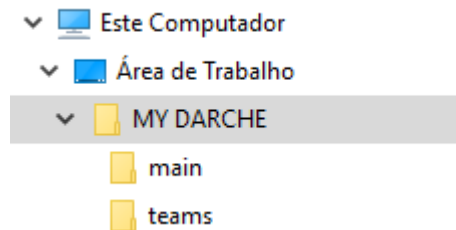
1. **Unpack the car files.** You will have to unpack the files “main” and “team” MAS files from the mod/car you are using with the gMotor2 MAS File Utility:

In this example I am going to do it for the URD PX DARCHE (AKA non-licensed RF2-not-really-hybrid Hybrid Porsche LMP1...).

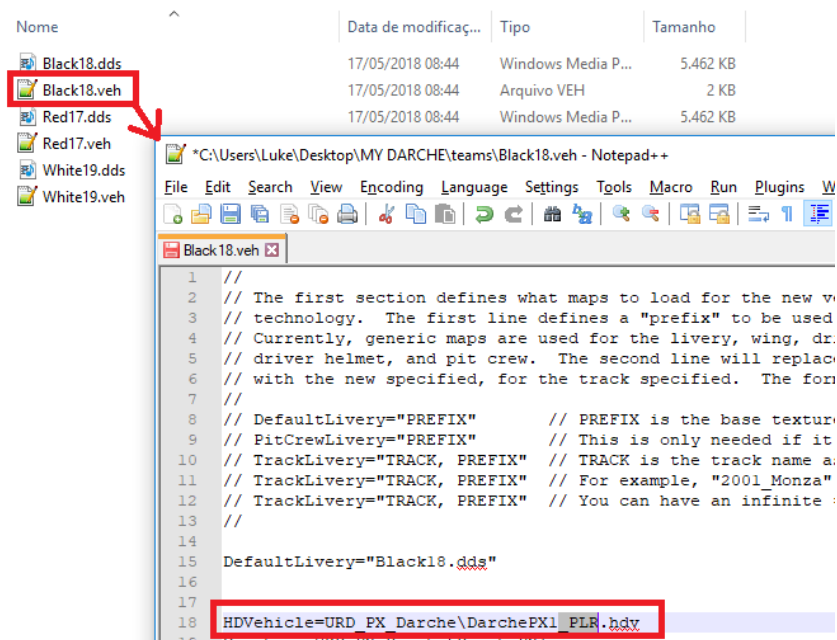
The screenshot shows the rFactor 2 Launcher interface on the left, with a red arrow pointing to the 'MAS Utility' button. Below it, the gMotor2 MAS File Utility window is open, showing a file list. A red circle highlights the 'Open' button in the toolbar, and a red arrow points to the 'Select MAS archive to open' dialog box. The dialog box shows the file path: OS (C:) > steam > steamapps > common > rFactor2 > Installed > Vehicles > URD_PX_Darche > 0.92. The file list in the dialog box is as follows:

Nome	Data de modificaç...	Tipo	Tamanho
URD_DarchePX1.mas	14/02/2018 01:32	Arquivo MAS	42.944 KB
URD_DarchePX1_lightre.mas	14/02/2018 01:32	Arquivo MAS	879 KB
URD_DarchePX1_main.mas	27/03/2018 18:47	Arquivo MAS	448 KB
URD_DarchePX1_shaders.mas	14/02/2018 01:32	Arquivo MAS	11 KB
URD_DarchePX1_Sounds.mas	14/02/2018 01:32	Arquivo MAS	38.252 KB
URD_DarchePX1_teams.mas	14/02/2018 01:32	Arquivo MAS	9.876 KB

I am highlighting booth files in the image above, but you have to do it for each of them, one at a time. Open the file, select all the files, select from the menu >> Edit >> Extract and choose an output directory. Extract each of this files to a different directory. Note the structure I am using (sorry, only Portuguese Windows available here):



2. **Create or edit a car.** Go to the directory where you have unpacked the files from your car. Locate the .VEH file related to the car you are going to use. Locate the "HDVehicle" entry, which determines which is the HDV file for this car and change it. In the example bellow I decided that I will be driving the Back #18 DARCHE, so I am editing this one. I added a "_PLR" to the HDV file name. This will be the name of a new HDV file we are about to create:



3. **Create a new HDV (car specs) file.** Now go to the directory where you have unpacked the files from the “main” MAS file. Make a copy of the HDV file you have found mentioned in your .VEH file in the previous step. Rename it according to the name you defined in the step above.

Locate and change the “TireBrand” entry, which defines the TBC (tyres) file. In the example below I also added a “_PLR” to it.

The screenshot shows a file explorer window on the left and a Notepad++ window on the right. The file explorer is displaying the contents of the 'main' directory under 'MY DARCHE'. A red box highlights the 'DarchePX1_PRL.HDV' file, and a red arrow points from it to the Notepad++ window. The Notepad++ window shows the contents of 'DarchePX1_PRL.HDV'. The file contains a list of car specifications. The 'TireBrand' entry is highlighted with a red box, and the value 'DarchePX1_tires_2015_PLR' is shown. The file also includes a comment indicating that the 'TireBrand' entry must appear before the 'FrontTireCompoundSetting' and 'RearTireCompoundSetting' entries.

Nome	Data de modificaç...	Tipo	Tamanho
DarchePX1.gen	17/05/2018 08:43	Arquivo GEN	26 KB
DarchePX1.HDV	17/05/2018 08:43	Arquivo HDV	34 KB
DarchePX1_cam.cam	17/05/2018 08:43	Arquivo CAM	3 KB
DarchePX1_CHASSIS.ini	17/05/2018 08:43	Arquivo INI	23 KB
DarchePX1_cockpitinfo.ini			
DarchePX1_damage.ini			
DarchePX1_engine.INI			
DarchePX1_engine_gears.ini			
DarchePX1_PRL.HDV			
DarchePX1_sounds.sfx			
DarchePX1_Spinner.gen			
DarchePX1_SUSP.PM			
DarchePX1_tires_2015.TBC			
DarchePX1_Upgrades.ini			
LMP_HEADPHYSICS.INI			
RPX1 M 31-71-18 2015 INTER.tgm			
RPX1 M 31-71-18 2015 RAIN.tgm			
RPX1 M 31-71-18 2015 S6.tgm			
RPX1 M 31-71-18 2015 S7.tgm			
RPX1 M 31-71-18 2015 S8.tgm			
RPX1 M 31-71-18 2015 S9.tgm			

```
//
[GENERAL]
FuelTankForceDistrib=(0.1:front_subbody:(0,0,-0.15),0.
Rules=0 // what rules to apply
GarageDisplayFlags=7 // how settings are di
Mass=855.0 // all mass except fue
Inertia=(1837, 1995, 360)
FuelTankPos=(0.0, 0.20, 0.200) // location of tank af
FuelTankMotion=(560.0,0.7) // simple model of fue
Notes="2015 Darche PX1"
Symmetric=1
DamageFile=DarchePX1_damage // file to fir
CGHeight=0.21 // height of body mass
CGRightRange=(0.50, 0.000, 0) // fraction of weight c
CGRightSetting=0
CGRearRange=(0.50, 0.005, 5)
CGRearSetting=3
WedgeRange=(0.0, 0.25, 1) // rounds of wedge
WedgeSetting=0
WedgePushrod=0.0
GraphicalOffset=(0.0, 0.0, 0.0) // does not affect phy
Undertray00=( 0.83, 0.0,-2.05) // corner offset from
Undertray01=(-0.83, 0.0,-2.05)
Undertray02=( 0.78, 0.0, 2.00)
Undertray03=(-0.78, 0.0, 2.00)
Undertray04=( 0.95, 0.0, 1.035)
Undertray05=(-0.95, 0.0, 1.035)
Undertray06=( 0.00, 0.0,-2.20)
UndertrayParams=(310000,3300,0.0) // spring/damper/fri
TireBrand=DarchePX1_tires_2015_PLR // must appea
FrontTireCompoundSetting=0 // compound index with
RearTireCompoundSetting=0 // compound index with
```

4. **Create a new TBC (tyre) file.** Still in the main directory, make a copy of the TBC file you have found mentioned in your .HDV file in the previous step. Rename it according to the HDV will have created.

Locate and change the "AIGripMult" entry, which defines a modifier for the grip the AI has using this tyres. Note that I have kept the previous value, because there will some trial/error until you find a value that matches the other opponents.

Also note that will need to find and change every AIGripMult entry in this file. There are some of them, since there is a different value for front/rear tyres of each tyre compound available. So, in this case there are 6 compounds, and so there are 12 entries like this one. I suggest change only one at first, and test it. When you find a good value, change the others using proportional values.

Yeah, I know, but DO want to have an offline endurance race this weekend, right?... Go on, it is worth it....

The screenshot shows a file explorer window titled 'Área de Trabalho > MY DARCHE > main'. The file list includes various files like DarchePX1.gen, DarchePX1.HDV, DarchePX1_cam.cam, DarchePX1_CHASSIS.ini, DarchePX1_cockpitinfo.ini, DarchePX1_damage.ini, DarchePX1_engine.INI, DarchePX1_engine_gears.ini, DarchePX1_PRL.HDV, DarchePX1_sounds.sfx, DarchePX1_Spinner.gen, DarchePX1_SUSP.PM, DarchePX1_tires_2015.TBC, DarchePX1_tires_2015_PLR.TBC, DarchePX1_Upgrades.ini, LMP_HEADPHYSICS.INI, and several RPX1 M 31-71-18 2015 INTER.tgm, RAIN.tgm, S6.tgm, S7.tgm, S8.tgm, and S9.tgm files.

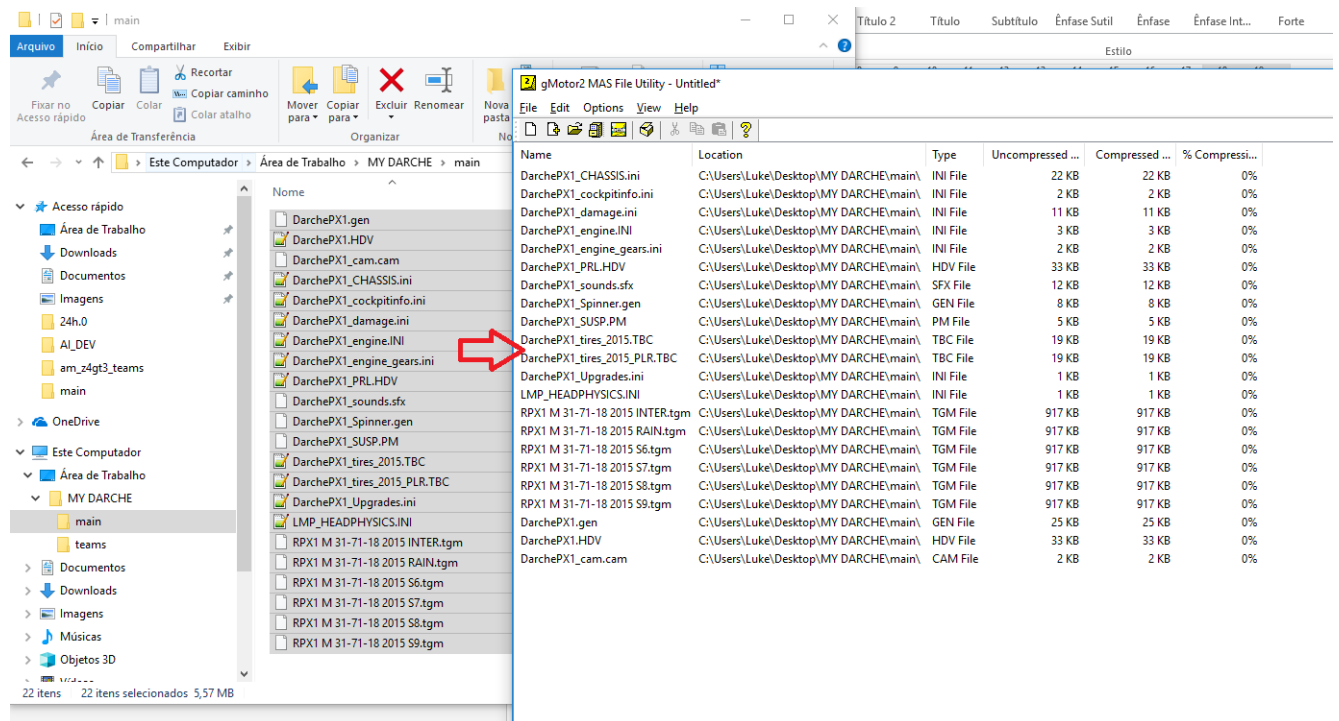
Overlaid on the file explorer is a Notepad++ window titled 'C:\Users\Luke\Desktop\MY DARCHE\main\DarchePX1_tires_2015_PLR.TBC - Notepad++'. The window shows the contents of the DarchePX1_tires_2015_PLR.TBC file. The text in the file is as follows:

```
113 LongPeak=(0.120, 0.133, 13025)
114 LatCurve="Lateral"
115 BrakingCurve="Decelerative"
116 TractiveCurve="Accelerative"
117 CamberLatLong=(4.1, 0.106, 0.43)
118 RollingResistance=1600
119 PneumaticTrail=5.70e-6
120 HeatBasePeak=(0.12, 0.030)
121 Heating=(0.60, 0.015)
122 Transfer=(4.0e-2, 1.92e-3, 2.9e-4)
123 HeatDistrib=(12.5,112)
124 AirTreadRate=0.003
125 WearRate=1.040e-7
126 WearGrip1=(0.987,0.973,0.967,0.962,0.958,0.955,0.953,
127 WearGrip2=(0.949,0.947,0.945,0.942,0.937,0.915,0.820,
128 Softness=0.5
129 //AIGripMult=1.04
130 AIGripMult=1.24
131 AITreadRate=1.6e-6
```

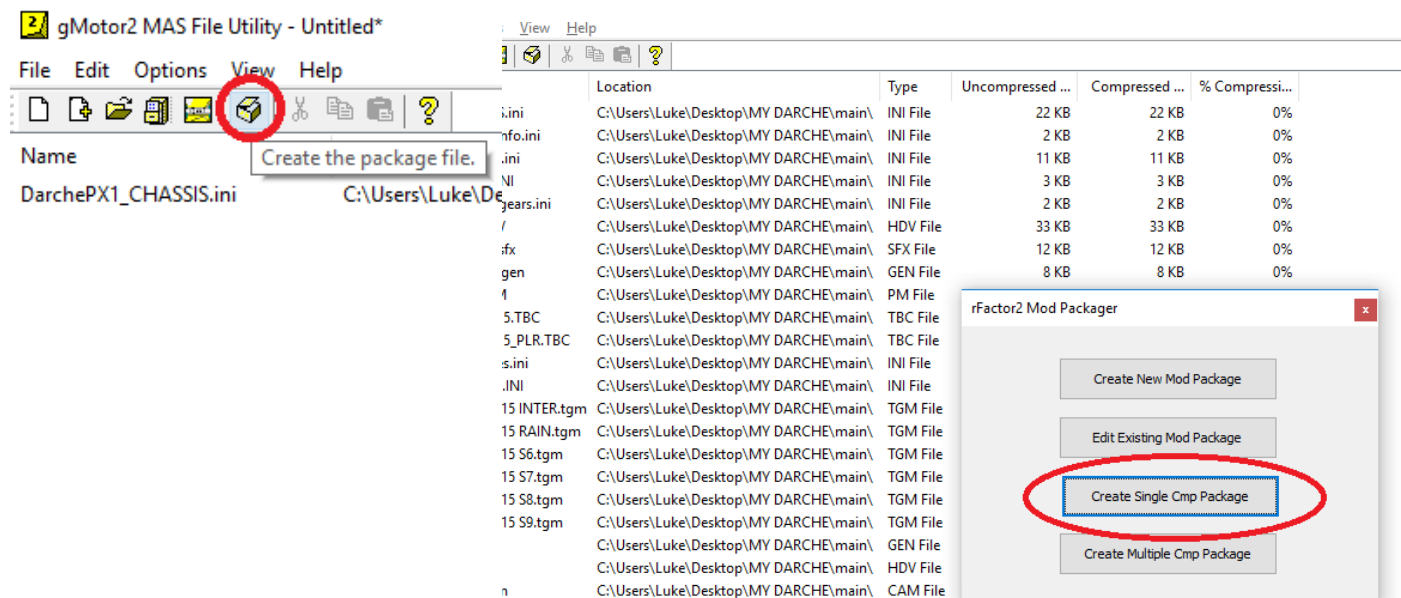
The lines 129 and 130 are highlighted with a red box, indicating the AIGripMult values.

5. **Pack and install.** Back to the MAS Utility, first pack your main and team files together.

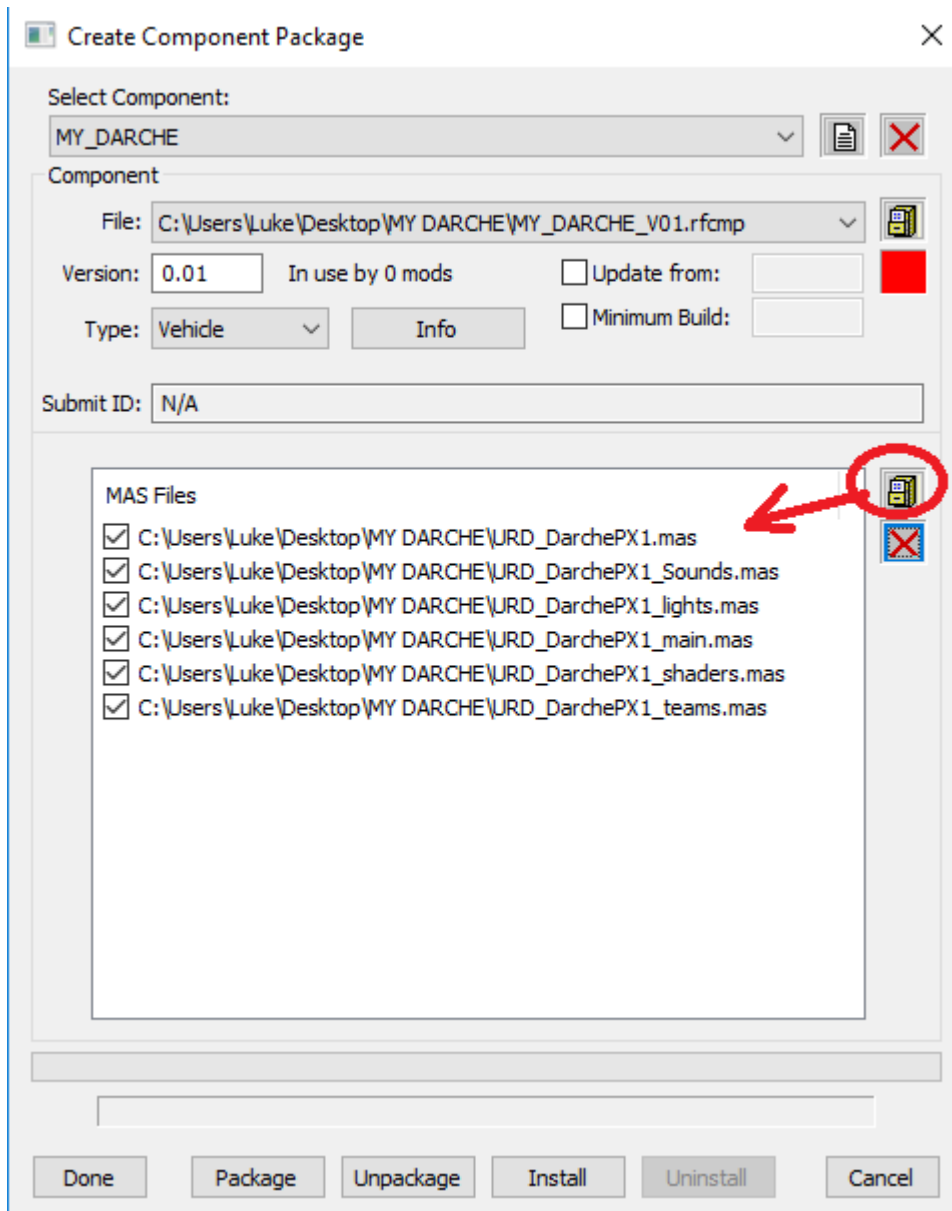
Go to the “main” directory, select all the files, drag them to the MAS Utility, select menu > File > Save As... and save it with the same name it had before. Same process for the team files.



Now lets create the final package. Select the package button, then “Create Single Cmp Package”:



Then you have to fill this:



Select Component: name your component

File: Choose where to save the package

Version: Inform a version. Caution: as you try different values will better create different versions, and always make sure you uninstall the previous one to avoid conflicts.

Choose the highlight button to add the MAS files. You need the main and team files you have created as well as the other MAS files from the car you are using.

Then choose "Package". That you create your rfcmp (package) file.

Choose "Install" to make it available in your RF2.

FINAL COMMENTS:

- For some reason the AIGrip level affects the AI in very different ways in the Practice, Qualify and Race sessions. Calibrate it using the race session, because probably it is the one that matters. You probably want to do the qualify yourself, and swap only in the race.
- Uninstall every previous version of the car you have changed to avoid conflicts. That includes the original one.
- Digging the web you probably you learn how to create MODs in a better way and may improve this procedure.
- Mind the driver swap procedure. The toggle AI option is not perfect... never swap while the pit crew is working your car, this will cause the AI to drive away before the procedure ends and RF2 may crash in the next toggle. Don't swap while going to your pit, because the AI will problem pass through and return to the track, and you may run out of fuel. I suggest you always drive the car to your pit, wait for the pit crew, leave your pit and swap while in the pit lane, returning to the track.
- Also your AI may want to pit in odd moments. So you may want to take control of the car for a brief period every time the car passes by the pit entrance. Yes, I know, but still better than try offline endurance in PCARS2, believe me.

Hope you enjoy and good and have a nice endurance weekend!