

GTR2 Advanced Physics Patch..

This patch provides updated physics for Simbin's "GTR2" as a provision for those in the community which seek a more "hard core" experience from the sim. The patch can be found bundled with AutoSimSport in the ZIP package.

Installation

The package contains two key files when extracted:

GTR2_NAP.EXE – This is the main installation file, double click this to install and point it to the location of your GTR2 installation (If it cannot be located automatically).

GTR2_OP.EXE – This executable, when run, will uninstall the NAPMod and restore the "stock" physics for GTR2.

The package also contains some car setup files for certain cars, which need to be copied to the relevant directories under your GTR2 installation to be used. We would strongly recommend doing so.

Fundamentals.

Because this patch changes some fairly fundamental aspects of the driving model, it is strongly advised that you read through the following guidelines before jumping in with both feet.

Don't rush into the fastest car and hit the track! You wouldn't do this in reality, don't do it in the sim either!

It would be advisable to start out with one of the NGT cars at first, we suggest the Ferrari 360 Modena NGT or if you feel you can handle a trickier manual gearbox, the 911 RS NGT. Specific setups have been created for these cars, that we hope you will find satisfactory, they are predictable and reasonably fast to drive.

When you hit the track, try to ignore what you have learnt with the old physics, start slow and build up speed, as if it were real life and you did not want to get hurt! Drive the car fast but conservatively and work your way up to the tyre's limits over the course of a few laps, this prevents any frustration from "wall time".

Once you have got used to the NGT cars, you can move on to the much faster, sensitive, and harder to drive GT cars.

Choose the same track you were driving with the NGT cars and start out, ideally, with the "drift king" Chevrolet Corvette. Enjoy the forgiving nature of the Corvette's chassis and allow yourself to feel the tyre's slip curve and drop off point. Once you have had

enough fun with twirling the steering wheel around with monster slides take a look at the Ferraro 550 BMS car, another front engined car that is manageable on the limit but can deliver healthy doses of adrenaline with its “buzz saw” V12! Enjoy the show, but remember that although fun, driving sideways all the time is not fast nor does it do any good to your tires. Once again use our provided setups to start with.

Before trying the Maserati and the Saleen, we suggest that you read the setup guidelines below to better understand how to setup a car with complex underbody aerodynamics.

SETUP GUIDELINES

The new “NAPmod” physics mod, has tried to use realistic values where possible, to recreate the complexity of modern racing cars.

To get the most out of these amazing racing cars and to feel the formidable amounts of grip they can generate, you need to understand that being racing cars, they are very sensitive to setup changes both aerodynamically and mechanically. The tyres are also very sensitive to temperature, pressure, and loads. If you correctly adjust the setup of the cars and the tyre pressures, you will experience considerable grip and nice, predictable handling characteristics, but at the same time, if you’re not able to set the car up properly, you will experience, poor handling, unpredictability and frustration.

In this section we will give you some general guidelines on how to setup the cars for getting the most out of them in racing conditions:

Tyre Pressures

Keep your tyre pressures and temperatures correct, and you will be a happy driver! Start by doing sets of 3-4 constant laps, and check the tyre’s pressure and temperature across all four wheels. Ideal pressure for hot tyres is about 200kPA so start with 150-160kPA in the garage and work with them over short runs to aim for equalizing (across all corners) the hot pressures as close to this mark as possible.

Temperature

Ideal tyre temperature is about 80 degrees for slick tires and about 90 for grooved tyres (rain and intermediate). In all circumstances you should aim to have a good spread of temperatures between I.M.O (Inside Middle Outside) of the contact patch. There is no need to have 10 degrees of difference as has been known to be believed, just try to maintain as much of an equal spread as possible.

Wear

Tyre wear is fundamental to endurance racing. In the FIA GT championship it is not rare to see cars going through two stints of fuel without changing the tyres at the pit stops,

thus gaining time. However, to do this you need a very neutral setup on your car, coupled with very good and smooth driving.

Camber

Depending on the tyre and car suspension configuration, you'll need more or less camber to get the maximum grip. Usually the front tyres give the maximum lateral grip at -4 to -3 degrees. What needs to be made clear here is that you should exercise caution, chiefly because more negative camber means less longitudinal grip for braking and traction.

Find the correct compromise. Rear tyres are more focused on traction and wider, so they need less camber. -3 to -2 are good values to play with. Dunlop tyres seem to like big amounts of negative camber, while Michelins lower. Pirelli are between those two. Experiment to find the optimum setting for your car, and driving style.

Aerodynamic stability and efficiency.

With previous versions of GTR, pilots would use softer suspension to gain as much mechanical grip from the tyres, with no concerns for the aerodynamic balance of the car at high speeds.

This is an aspect that has definitely changed with the NAPMod physics mod. The front splitter and rear diffuser are now much more sensitive to pitch, yaw and rake. This means that while softer suspension can make the car easier to drive at low speeds, it could result in aerodynamic unpredictability of the car at medium and high speeds. This is because the softer suspension will see the car pitch and roll as it progresses through braking, apex and exit, this will change the ride heights while on track on an almost constant basis, thus disturbing the underbody airflow. When changes to rake occur due to pitch, the effectiveness of the diffuser is compromised, which can have as large affect on the overall downforce being generated from the floor of the car. Obviously, the last thing anyone wants is for downforce levels to vary wildly during a lap. When a very stiff setup is used, the car becomes much more predictable, grippier and precise at medium and high speed, this is because it pitches and rolls much less. This keeps the chassis "flat" to the ground, keeping ride heights, rake and wing angles consistent. Keep in mind though that the car will be harder to control at lower speeds, due to the stiffer setup. Again, you must find the correct compromise for every track.

Ride Height.

With the NAPMod changes some GT cars are able to run very low ride heights. Using low ride heights will benefit aerodynamics and will lower the center of gravity of the vehicle. It is, of course, not advisable to run the car too low on tracks with lots of compressions and bumps. Raise the car accordingly from the minimum values that you find in default in the garage screen. Static ride heights and packers should be adjusted on

track ride and heights monitored to achieve optimum rake at high speed to maximize underbody downforce and overall aerodynamic efficiency.

We hope that you will enjoy the new depth and complexity of the NAPMod and have lots of hours of fun, trying to get the most out of your preferred car.

In creating the NAPMod we tried hard to not compromise the original grid performances of the cars. Each car, although different in behavior from the “stock” physics, should perform equally in relationship to each other, as they do in the original game. We were also happy to see that with our changes, lap times are much closer to real life, and at some tracks spot on. Only true aliens will be able to better them, but beta tests have shown that even then they only best real world times by a second or two.

We hope that this patch does not bring flaming and futile discussion in the community. We encourage you to test it, but if you don't like it, just ignore it and try not to flame. We are not trying to convince anybody about the authenticity of our patch, we just did it, because we had fun doing it.

Check back in AutoSimSport next month for a deeper discussion on what has been changed from the stock physics and how we came to these conclusions. If you have any feedback you would like to give to the authors of this patch please send to:

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Credits.

NAPMod's authors would like to thank:

Simbin and Blimey games for the amazing software that is GTR2, a great base to work from.

SimLeague GTR2 Italian Championship (<http://www.simleague.net>), for beta testing and support.

AutoSimSport (<http://www.autosimsport.net>), for all their support and the publishing of the mod.